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REPORT

ON THE

Health of the County Borough of Bootle,
for the year 1913,

BY

W. ALLEN DALEY,

M.D., B.Sc. (LOND.), D.P.H. (CANTAB.), B.A.

*Medical Officer of Health,
Administrative Tuberculosis Officer,
Medical Superintendent of the Infectious Diseases' Hospital,
School Medical Officer.*

BOOTLE :
HUGH EVANS & SONS, 68 HERTFORD ROAD & 356, 358 STANLEY ROAD, LIVERPOOL.
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1914

HEALTH COMMITTEE

OF THE

BOOTLE TOWN COUNCIL,

1913-14.

*Mr. ALDERMAN CAIN, J.P., Chairman.

*Mr. COUNCILLOR TURNER, M.A., M.D., Deputy-Chairman.

Mr. ALDERMAN CARRUTHERS, J.P. Mr. ALDERMAN HANLON. Mr. ALDERMAN ROBERTS, L.R.C.P., J.P. Mr. ALDERMAN WILD, M.D., J.P. Mr. COUNCILLOR CASSADY. Mr. COUNCILLOR GILL. *Mr. COUNCILLOR HARRIS. Mr. COUNCILLOR HUGHES.	Mr. COUNCILLOR F. W. KING. Mr. COUNCILLOR J. J. KING. *Mr. COUNCILLOR MANSERGH. *Mr. COUNCILLOR MUSKER. *Mr. COUNCILLOR PEARSON, M.R.C.S., J.P. *Mr. COUNCILLOR PENNINGTON. Mr. COUNCILLOR PRINCE. †Mr. COUNCILLOR WARD.
---	--

and

*HIS WORSHIP THE MAYOR (Mr. Councillor RAFTER, L.R.C.P.)

**Members of the Hospitals and Tuberculosis Sub-Committee.*

†Chairman

„

„

„

Staff of the Public Health Department.

Medical Officer of Health, Administrative Tuberculosis Officer, and
Medical Superintendent of the Corporation Hospital, Linacre Lane:

W. ALLEN DALEY, M.D., B.S., B.Sc. (Lond.), B.A. (R.U.I.), D.P.H. (Cantab.)

Assistant Medical Officer of Health and Medical Inspector of Scholars:

H. J. MILLIGAN, M.B., Ch.B. (Glasgow), D.P.H. (Cantab.)

Resident Medical Officer of the Corporation Hospital, Linacre Lane:

T. W. WADSWORTH, M.D. (Liverpool), D.P.H.

Tuberculosis Officer:

C. W. LAIRD, M.D., B.A. (Dublin), D.P.H.

Inspector of Nuisances, Inspector under the Sale of Food and Drugs Acts,
and the Housing, Town Planning, &c., Act, &c.

†*R. J. McCULLOCH.

Assistant Inspectors of Nuisances:

*H. V. SMITH. H. OWENS. †*M. JONES.

Clerical Staff:

A. MUSKER. Miss B. WILSON.
F. E. PINKMAN. H. E. BRAITHWAITE.
J. HAGAN.

Lady Sanitary Inspector and Inspector under the Midwives' Act

*‡Miss ADA STOTT.

Lady Sanitary Inspector.

*Mrs. MCKOWEN.

Tuberculosis Nurse

‡ Miss B. MCQUAKER.

Disinfecting Workmen;

J. LOBB. J. WALL.

**Certificated Inspector of Nuisances.*

† „ *Inspector of Foods.*

‡ „ *Midwife.*

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HEALTH DEPARTMENT,
TOWN HALL, BOOTLE.

27th April, 1914.

*To the Chairman and Members of the
Health Committee.*

GENTLEMEN,

I have the honour to present to you my third Annual Report on the Sanitary Condition of the Borough and the Health of its inhabitants.

The subjects dealt with are those laid down by the Local Government Board in their Memorandum on the Preparation of Annual Reports.

Pressure of other work, particularly with regard to the tuberculosis scheme, has delayed publication.

The birth-rate was 30·0 per 1,000 of the population, and except for 1910, when it was 29·1, and 1912, when it was 29·9, it is the lowest recorded in the Borough.

The death-rate was 17·5 and compares with rates of 16·6 in 1912 and 18·2 in 1911. A large number of cases of diarrhoea in infants occurred during the year and caused a considerable addition to the death-rate. No cases of Smallpox or Typhus Fever were notified; four deaths each occurred from Scarlet Fever and Diphtheria, and only one from Enteric Fever.

The rate of infantile mortality was 145 per 1,000 births, and was not nearly so satisfactory as in recent years.

Pulmonary Tuberculosis caused 90 deaths; the progress made during the year towards establishing a complete scheme for the prevention of Tuberculosis is detailed in the report.

I must acknowledge my appreciation of the efficient manner in which each and every member of the staff has done his or her duty during the

year. I am indebted to Mr. McCulloch and the clerical staff for much assistance in the preparation of this report.

I beg to again thank you for the attention and consideration which you have invariably given to my suggestions.

I am, Gentlemen,

Your obedient servant,

W. ALLEN DALEY,
Medical Officer of Health.

STATISTICAL SUMMARY FOR 1913.

Area in Acres (inclusive of Dock Estate)	1,947
Area in Acres (exclusive of Dock Estate)	1,610
Population at Census of 1911	69,876
Estimated Population in July, 1912	72,186
Population per Acre (excluding Dock Estate)	44·8
Number of Houses in the Borough on December 31st, 1913 ..	13,489
Number of Persons in each Inhabited Building (at Census of 1911)	5·63
Number of Births during 1913	2,166
Birth-rate per 1,000 of the Population	30·0
Number of Deaths	1,265
Death-rate per 1,000 of the Population	17·5
Natural Increase of the Population during the year	901
Number of Deaths of Infants (under the age of one year) ..	316
Infantile Mortality per 1,000 births	145
Number of Uncertified Deaths	47
Death rate from the seven principal Zymotic Diseases per 1,000 of the Population	2·56
Death rate from Diarrhœa and Enteritis, of children under two, per 1,000 births	45·7
Death-rate from Phthisis per 1,000 of the population	1·24
Death-rate from all forms of Tuberculosis per 1,000 of the popu- lation	1·66
The Rateable Value of the Borough was	£465,447
A penny rate on the District Fund produces	£1,445

In 1913 the General District Rate was 2/10 and the total rates 7/8 in the pound (excluding water rate and charges).

BOROUGH OF BOOTLE.

ANNUAL REPORT

TO THE

HEALTH COMMITTEE

OF THE

MEDICAL OFFICER OF HEALTH

Bootle is a County Borough, and has an area of 1,947 acres, excluding the bed of the River Mersey. It is bounded on the south and east by the City of Liverpool, and on the north by the Urban Districts of Waterloo-with-Seaforth and Litherland. The western boundary of the Borough abuts on the mouth of the River Mersey.

PHYSICAL FEATURES OF THE DISTRICT.

The land falls from east to west, i.e.—towards the river. The highest parts are situated in the extreme north-east and south-east boundaries, and reach a height of 125 feet above mean sea level. The lower portions, adjoining the docks, are from 22 to 24 feet above mean sea level.

Geological Formation.—The upper layer consists of drift sand, varying in depth, below which there is, in places, a layer of clay. Underneath this is red sandstone which appears at the surface in certain parts of the town.

POPULATION.

At the census in 1881 the population was 27,374 ; in 1891, 49,217 ; in 1901, 58,556, and in 1911 69,876. In 1901 the population of Orrell, which was added to the Borough in 1906, was 1,679 ; in 1911 it had increased to 3,907, which is included in the 69,876.

The estimated population at the middle of the year 1913 was 72,186, but owing to recent immigration into the town on a large scale, as a result of increased industrial activity, it is not unlikely that this estimate is

under-stated, and this will make the birth, death and all other rates which are calculated per 1,000 of the population appear greater than they really are.

Assuming that the age distribution in July 1913 was similar to that in April 1911, the figures showing the population at each age group in the middle of 1913 are as follow :—

Under 1 year	..	..	..	..	1,803
1 year and under 2	..	..	..	..	1,734
2 years and under 5	..	..	..	..	5,265
Total under 5	..	..	..	..	— 8,802
5 years and under 15	..	..	..	..	.. 15,878
15 „ „ „ 25	..	..	..	..	.. 13,195
25 „ „ „ 45	..	..	..	..	.. 21,288
45 „ „ „ 65	..	..	..	..	.. 10,539
65 „ „ older	..	..	..	..	.. 2,484
					72,186

The estimated number of males was 35,545 and of females 36,641.

THE CENSUS.

The following facts relating to Bootle are taken from the returns of the 1911 census which were published in 1913 :—

Condition as to Marriage.—Bootle is amongst the towns of England and Wales having the highest proportion of unmarried and the lowest proportion of married men.

Birthplaces.—Volume IX gives the birthplaces of those enumerated in Bootle on the night of the census. Of the total population of 69,876 only 24,366 were born in Bootle. The following numbers of persons were born in the places indicated : 1,079 Birkenhead, 1,080 Chester, 21,030 Liverpool, 505 Manchester, 542 London, 617 Anglesey, 609 Carnarvonshire, 505 Denbigh, 378 Flint, 704 other parts of Wales, 2,049 Scotland, and 4,687 Ireland. There were 537 foreigners. Bootle is classed amongst the towns with a high rate of immigration. Of all towns (English and Welsh) it contains the highest proportion of Irish and the fourth highest of Scotch.

Occupation and Industries.—Volume X states that 21,945 males were engaged in some occupation, of which the following are the more important—2,383 employed in the merchant service, 3,278 as dock labourers, 691 general labourers, 252 coal heavers, 265 boiler makers, 86 in the manufacture of lucifer matches, and 203 tanners. There were 12,422 married and 2,464 widowed women in the town; 735 of the former and 706 of the latter were employed. The total number of employed women was 7,278, and the following gives the numbers employed in the occupations which are the most important numerically: 340 teaching, 291 commercial or business clerks, 1,495 domestic indoor servants, 258 charwomen, 380 laundry workers, 360 lucifer match manufacture, 240 jute manufacture, 273 bleaching and dyeing, 562 dressmaking.

A fuller list of the occupations of both males and females is given in the Appendix, page 102.

Infirmities.—Thirty persons were enumerated as totally blind, 31 totally deaf, and 26 deaf and dumb, but these figures probably do not represent the total number who might rightly be classified under the respective headings. 235 pauper lunatics were chargeable to Bootle, being 3·36 per 1,000 of the population. The proportion for England and Wales was 3·35 per 1,000 of the population.

The figures relating to buildings and the number of persons in each house are dealt with under “Housing,” pages 63–66.

POOR LAW AND HOSPITAL RELIEF.

The Clerk of the West Derby Board of Guardians has kindly supplied the following information relating to Poor Relief given in the Bootle District.

“(a) Year ended 30th September, 1913.

Outdoor Medical Relief only.

Individual Orders on Medical Officers :—

				To March 31st.	To Sept. 30th.		Total.
District No. 1	..	..	..	547	..	404	.. 951
District No. 2	..	..	..	423	..	429	.. 852
				—		—	—
Total number of Individual Orders				970	..	833	.. 1,803
				==		==	==

About 20% of the patients were admitted to the Union Hospitals.

(b) Half-year ended 30th September, 1913.

Outdoor Relief (excluding Medical)

Men		Women		Children
59	..	268	..	415—Total, 742."

During 1913, 892 in-patients and 11,272 out-patients were treated at the Borough Hospital. Many Bootle people attend the Liverpool Hospitals.

VITAL STATISTICS.

It is very instructive to compare our own vital statistics with those of neighbouring towns and other seaports, and the following table has been prepared through the courtesy of the Medical Officers of Health of the towns mentioned, who have supplied the statistics for their districts. The rates for England and Wales and for the 96 great towns, of which Bootle is one, have been obtained from the annual summary, issued by the Registrar-General.

Death-rate from

	Estimated Population July, 1913.	Birth-rate	Death-rate	Death-rate corrected for age and sex distribution	Rate of Infantile Mortality	Scarlet Fever	Diphtheria	Measles	Whooping Cough	Enteric Fever	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Diarrhoea and Enteritis, (under 2) per 1000 births
England & Wales	36,919,339	23·9	13·7	13·4	109	0·06	0·12	0·28	0·14	0·04	—	—	23·4
96 great towns ...	17,852,766	25·1	14·3	14·7	117	0·07	0·13	0·34	0·17	0·04	—	—	29·3
Birkenhead ...	135,740	28·7	14·9	—	117	0·02	0·14	0·05	0·30	0·07	1·2	0·4	—
Blackburn ...	133,931	21·7	15·8	17·1	147	0·07	0·05	0·07	0·05	0·05	0·65	0·36	—
Blackpool ...	64,186	16·2	14·2	14·2	125	0·03	0·09	0·20	0·08	0·02	0·76	0·34	—
Bolton ...	183,879	31·7	15·7	17·0	142	0·01	0·17	0·46	0·26	0·08	0·83	0·31	42
BOOTLE ...	72,186	30·0	17·5	18·4	145	0·05	0·05	0·45	0·51	0·01	1·24	0·41	45·7
Bury ...	59,159	20·0	15·5	—	141	0·11	0·13	0·42	0·02	0·06	1·01	0·32	34·5
Liverpool ...	756,553	29·8	18·0	18·6	132	0·07	0·10	0·42	0·30	0·04	1·5	0·5	38·8
Manchester ...	731,556	25·6	15·7	17·0	128	0·13	0·14	0·35	0·19	0·06	1·42	0·52	—
Oldham ...	149,936	23·2	16·9	—	138	0·1	0·1	0·2	0·2	0·02	1·2	—	—
Rochdale ...	93,420	20·7	15·3	16·3	106	0·08	0·10	0·10	0·03	0·03	1·10	0·48	24
St. Helens' ...	99,460	32·1	18·9	20·4	155	0·26	0·15	1·19	0·18	0·04	1·0	0·90	33·13
Salford ...	234,975	26·2	16·3	18·0	143	0·1	0·1	0·5	0·2	0·1	1·4	0·6	—
Stockport ...	112,480	23·1	15·6	16·6	146	0·009	0·12	0·29	0·12	0·09	1·4	0·53	47·2
Wallasey ...	83,000	22·4	11·8	12·2	80	0·07	0·06	0·08	0·13	0·03	0·7	0·3	18·7
Wigan ...	91,573	27·7	18·4	20·5	179	0·01	0·06	1·34	0·24	0·14	0·88	0·64	47
Grimsby ...	77,420	27·1	13·4	—	114	Nil	0·12	0·21	0·06	0·09	0·76	0·42	25·6
Ipswich ...	75,682	23·8	13·9	12·9	95	0·06	0·14	0·07	0·19	—	1·16	0·43	15·4
Newcastle-upon- Tyne ...	271,295	27·5	15·5	—	122	0·08	0·11	0·23	0·36	0·06	1·2	0·6	—
Southampton ...	122,412	23·8	12·9	12·3	81·5	0·01	0·24	0·24	0·08	0·04	1·2	0·29	14·9
South Shields ...	111,513	31·1	17·9	18·5	117	0·28	0·07	0·51	0·10	0·06	1·3	0·66	18·3
Sunderland ...	152,380	31·4	18·1	—	135	0·12	0·14	0·52	0·12	0·02	1·1	0·53	35·8
Tynemouth ...	60,601	28·8	15·5	—	123	0·21	0·16	0·08	0·05	0·05	0·85	0·61	28·6

The death rates in Bootle from Diphtheria and Enteric Fever are satisfactory ; that from Scarlet Fever is fairly satisfactory, but the rate of infantile mortality, the total death-rate, and those from Measles, Whooping Cough, Pulmonary and Non-Pulmonary Tuberculosis and Diarrhœa and Enteritis are all *unsatisfactory*. In connection with these statistics, I would point out that a death-rate in Bootle of 1 per 1,000 means 72 deaths per annum.

BIRTHS.

During the year 2,132 births were registered in the district. The Registrar-General informed me of 34 births, which occurred in other districts : these births are of children whose mothers have their usual residence in this Borough, and who were temporarily elsewhere when the births took place. No births registered in Bootle were transferred to other districts. This is only the third year in which births occurring under these circumstances have been transferred to Bootle, hence the 'birth-rate is not strictly comparable with that of any year before 1911.

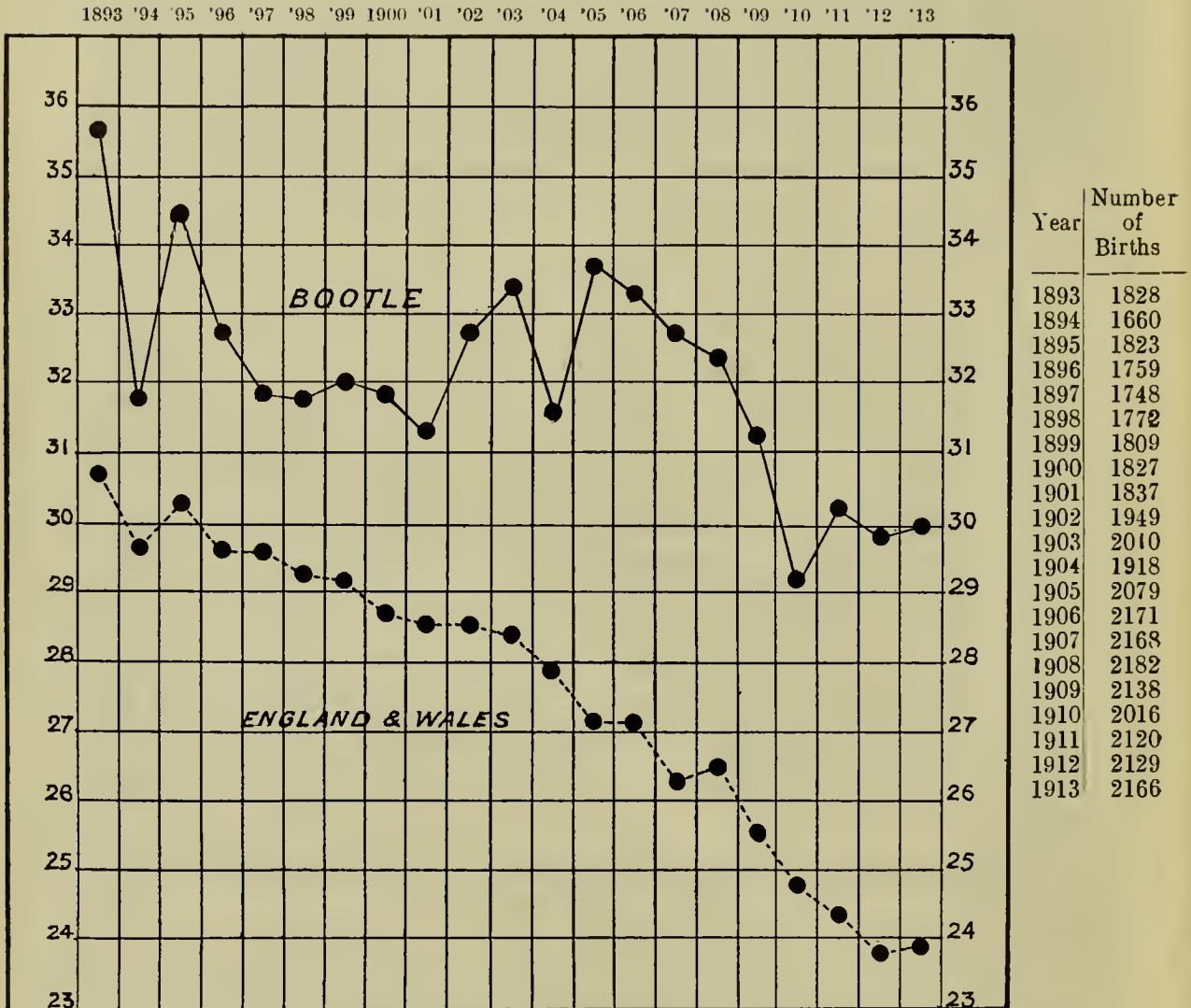
Of the 2,166 births accredited to Bootle, 1,095 were of males and 1,071 of females. The birth-rate per 1,000 of the population was 30. The rate for the decennium 1903–1912 is recorded as 31·7, but had all the births properly belonging to Bootle been counted, it would be slightly higher.

Illegitimate births numbered 65 and were 3% of the total : 21 of these took place outside the Borough.

Fertility Rates.—The number of births per 1,000 females aged 15 to 45 years was 121 : that of England and Wales for 1911 (the last available) was 97·8. The number of legitimate births per 1,000 married women of those ages was 237, and the number of illegitimate births per 1,000 unmarried and widowed was 7. The estimated number of married women of those ages in July 1913, was 8,828, of unmarried 8,522 and of widows 422. The legitimate fertility in England and Wales in 1911 was 196, and the illegitimate 8.

The birth-rate for England and Wales during 1913 was 23·9 per 1,000 of the population. For the 96 large towns, including London, it was 25·1. The following chart shows the variations in the birth-rate per 1,000 of the population of Bootle and of England and Wales during the past 21 years.

BIRTH RATES.



The natural increase of the population, that is, the excess of births over deaths, during each year from 1893 to 1912, is given in the following table:—

Rate per 1,000					Rate per 1,000				
1893	..	659	..	12·8	1903	..	871	..	14·4
1894	..	709	..	13·6	1904	..	739	..	12·1
1895	..	713	..	13·4	1905	..	941	..	15·2
1896	..	712	..	13·2	1906	..	962	..	14·7
1897	..	691	..	12·6	1907	..	1040	..	15·7
1898	..	717	..	12·9	1908	..	957	..	14·2
1899	..	597	..	10·5	1909	..	990	..	14·5
1900	..	586	..	10·1	1910	..	997	..	14·4
1901	..	783	..	13·3	1911	..	837	..	11·9
1902	..	788	..	13·2	1912	..	946	..	13·2
Annual average..		695	..	12·5	Annual average		928	..	14·0

During 1913, the natural increase of the population was 901, the rate per 1,000 of the population being 12·4.

In this connection it must be noted that the satisfactory natural increase in recent years has been due to the fact that although the birth rate has appreciably fallen, the death rate has fallen even more rapidly : this decline in the death-rate cannot go on indefinitely, although a reduction corresponding to the red portion of the circle on page 18 must be aimed at.

In the following table the numbers of births registered in each quarter of the year are shown, together with the wards in which the mothers resided.

Ward	1st quarter		2nd quarter		3rd quarter		4th quarter		Total	Birth rate per 1,000 of the estim- ated population	
Orrell ..	41	..	44	..	44	..	49	..	178	..	40·0
Knowsley	98	..	103	..	94	..	100	..	395	..	32·1
Mersey ..	83	..	106	..	95	..	81	..	365	..	31·0
Linacre ..	106	..	132	..	135	..	128	..	501	..	29·9
Derby ..	113	..	117	..	110	..	109	..	449	..	28·9
Stanley ..	57	..	75	..	71	..	55	..	258	..	22·5
Whole Borough	498	..	577	..	549	..	522	..	2146	..	29·7

To these must be added 20 births which occurred in other districts, and in which the wards where the mothers resided are not known.

NOTIFICATION OF BIRTHS ACT, 1907.

The Notification of Births Act, 1907, came into operation in Bootle on the 7th January, 1908. By the provisions of this Act, the Medical Officer of Health should be informed of each birth within thirty-six hours of its occurrence. Visits are paid by the Lady Inspectors to the mothers of the newly-born children, and advice is given concerning infant care and management.

In some cases notification is not made in accordance with the provisions of the Act, and the birth is not heard of until it is recorded in the returns of the Registrar, some six weeks after the birth of the child.

These children are, as a rule, those of better class parents who are attended by private practitioners.

	1908	1909	1910	1911	1912	1913
Births notified by Medical Practitioners	251..	158..	131..	101..	93..	123
Births notified by Midwives ..	1476..	1553..	1522..	1560..	1593..	1735
„ „ Others ..	155..	58..	37..	66..	52..	25
Totals	1882..	1769..	1690..	1727..	1738..	1883

The number of births registered in the Borough was	2182..	2138..	2016..	2093..	2093..	2112
Percentage notified of those registered	86·2..	82·7..	83·8..	82·5..	83·0..	89·1

DEATHS.

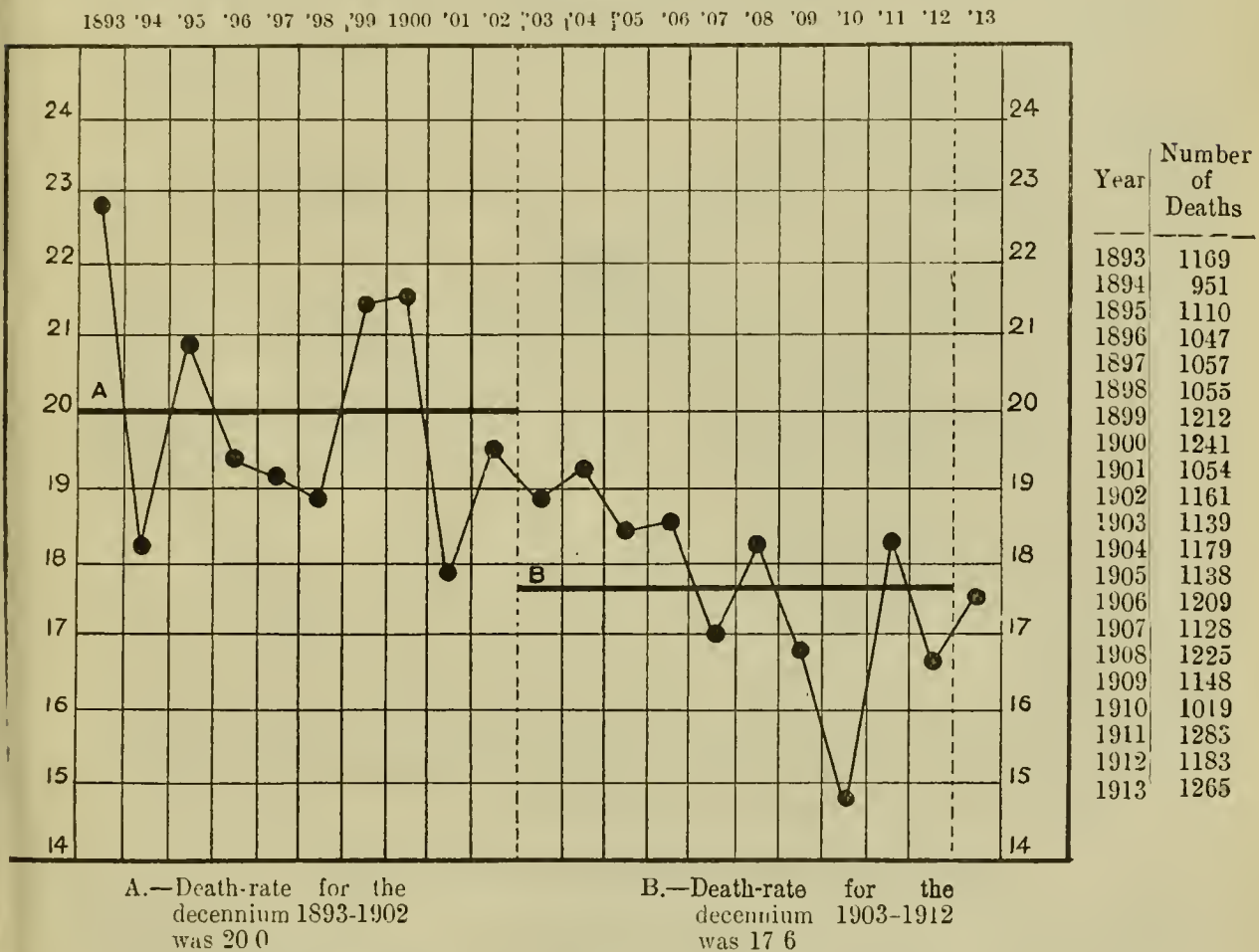
The number of deaths registered in Bootle during the calendar year 1913 was 1,065. This number includes the deaths of 52 non-residents which occurred in the Borough ; 38 of these died in the Royal Hospital. During the year the Registrar-General provided the Medical Officer of Health with particulars relating to 252 persons who had died in other parts of the country and were stated to have been inhabitants of the Borough. 170 of these died in Poor Law Institutions ; 38 in Voluntary Hospitals in the City of Liverpool, and 16 in Lunatic Asylums. When these adjustments have been made, the total number of deaths assigned to Bootle is 1,265, equal to a death-rate of 17·5 per 1,000 of the population. Arrangements were first made for the distribution of information concerning transferable deaths in 1911, hence, the recorded death-rates for years prior to this are under-stated. “ Transferable Deaths ” are defined as “ deaths of persons who, having a fixed or usual residence in England and Wales, die in a district other than that in which they usually resided.”

The total number of deaths which occurred in institutions was 312 ; approximately one death in every four.

The death-rate of England and Wales during 1913 was 13·7. The rates in neighbouring towns and other seaports are given on page 12

The crude death-rate of the 96 great towns, including London, was 14.3. The standardising factor for age and sex distribution in Bootle, based on the last census, is 1.0528. Hence the standard death-rate of Bootle when corrected for age and sex distribution was 18.4; in the 96 great towns, it was 14.7.

CHART SHEWING DEATH-RATE OF THE BOROUGH SINCE 1893.



The rates from 1893-1910 are partially, and those since 1911 fully corrected for "transferable" deaths; they are all uncorrected for age and sex distribution.

The following diagram shows the relative importance of the various diseases, or groups of diseases, which materially contributed to the 1,265 deaths which occurred in 1913. Those diseases which are ordinarily regarded as infectious and preventable are contained within red lines.

DIAGRAM SHOWING THE PRINCIPAL CAUSES OF DEATH
DURING THE YEAR 1913.

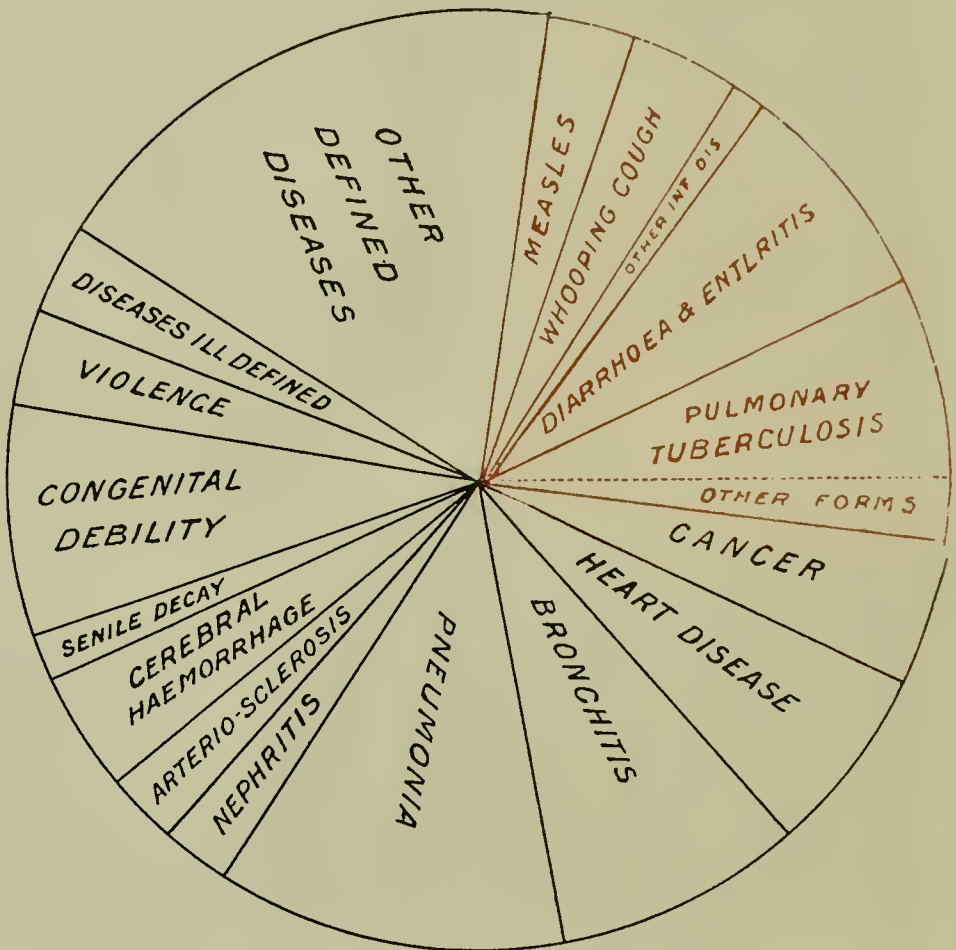


Table III on page 99 shows the number, and the age distribution, of the deaths from the principal diseases.

MORTALITY IN RELATION TO SEASON.

Ward	Number of Deaths in each Quarter								Total	Death rate per 1,000 of the estimated population
	1st	2nd	3rd	4th						
Mersey ..	72	64	57	79	..	..	..	272	..	23·1
Knowsley	78	67	65	70	..	..	..	280	..	22·7
Linacre ..	84	58	67	76	..	..	..	285	..	17·0
Stan ey ..	69	27	30	33	..	..	..	159	..	13·9
Orrell ..	14	19	16	11	..	..	..	60	..	13·5
Derby ..	61	43	52	53	..	..	..	209	..	13·4
..	378	278	287	322	..	..	..	1265	..	17·5

The very heavy mortality which was experienced in the first quarter of 1913 was due to the large number of deaths which were occasioned by Measles and by Pneumonia. Of the deaths during the third quarter, 66 were due to Diarrhœa.

Mersey Ward, as usual, has the highest death-rate, viz. : 23·1 ; Knowsley being second with 22·7.

The death-rates per 1,000 of the population from those causes which show the most striking differences between Mersey and Knowsley Wards, and the other wards of the town, are given in the following table :—

	Estimated Population	Total Death-rate	Measles	Phthisis	Pneumonia	Violence	Diarrhoea and Enteritis (all ages)	Con-genital Debility	Rate of Infantile Mortality per 1,000 births
Mersey ..	11,766	23·1	0·76	1·4	2·8	1·35	2·29	2·20	194
Knowsley ..	12,295	22·7	0·81	1·6	2·7	0·89	2·03	1·54	205
Other Wards	48,125	14·8	0·29	1·1	1·8	0·29	1·12	1·14	116
Whole Borough	72,186	17·5	0·45	1·2	2·1	0·56	1·46	1·38	145

The figures are similar to those given last year. The condition of the wards and their residents are similar to those detailed in the reports of last and other years. Mersey Ward has been inhabited for many years by the poorest people in the Borough, their occupations being chiefly those of dock labourers and marine firemen. More recently a similar class has immigrated to Knowsley Ward.

INFANTILE MORTALITY.

There were 316 deaths of infants ; this is an infantile mortality rate of 145 per 1,000 births. In this section of the report an “ infant ” means a child under the age of one year.

The average annual rate for the previous ten years was 139 per 1,000 births :

The rates in the different wards for 1913 and the previous ten years are :—

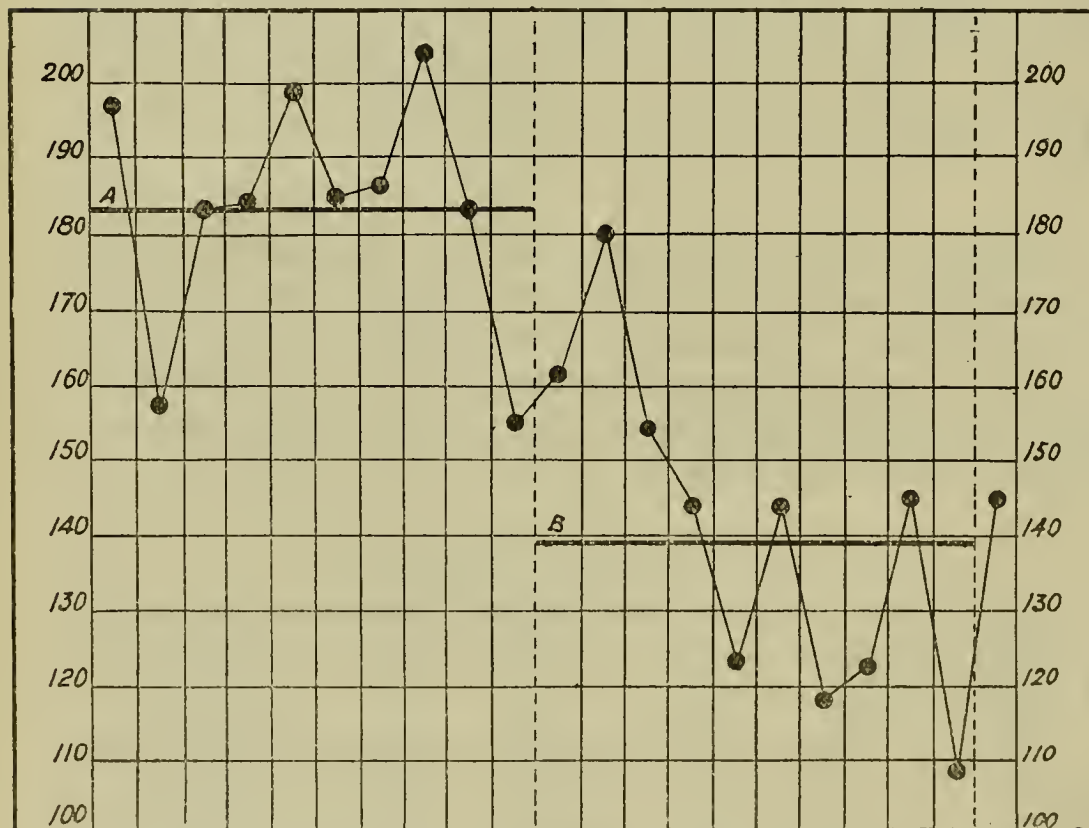
Ward	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	Rate for the de- cennium 1903-1912
Mersey ..	164	222	174	177	164	200	185	185	156	176	194	180
Knowsley	162	186	130	156	132	160	129	106	213	125	205	150
Stanley ..	212	174	161	119	92	111	108	80	157	107	116	134
Derby ..	143	154	150	121	100	109	122	129	112	109	106	124
Linacre ..	143	158	156	152	115	132	85	106	129	65	127	123
Orrell ..	—	—	—	100	144	154	44	123	108	65	123	*104
Whole												
Borough	161	180	154	143	123	143	118	123	145	108	145	139

*This figure is for the seven years 1906—1912.

During 1913, the rate of infantile mortality for England and Wales was 109 per 1,000 births. In the 96 great towns it was 117. The rates in neighbouring and seaport towns are shown on page 12. The rates of infantile mortality for the whole borough during the past 21 years are shown on the chart.

RATES OF INFANTILE MORTALITY.

1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913



Year.	In- fantile Deaths
1893	351
1894	262
1895	335
1896	324
1897	349
1898	329
1899	337
1900	373
1901	337
1902	302
1903	325
1904	346
1905	321
1906	312
1907	268
1908	314
1909	253
1910	249
1911	308
1912	232
1913	316

A.—Rate of infantile mortality during the decennium, 1893-1902 was 183 per 1,000 births.

B.—Rate of infantile mortality during the decennium 1903-1912 was 139 per 1,000 births

The causes of infantile mortality and the ages at death are set out in detail in Table IV at the end of this report. A summary of the principal causes of the difference between the rates for Mersey, Knowsley and the other wards grouped together is given in the following table :—

RATES PER 1,000 BIRTHS.

Wards	No. of Births	Rate of Infantile Mortality	Meas-les	Whoop-ing Cough	Convul-sions	Bron-chitis & Pneu-monia	Diarr-hœa & Enter-itis	Prema-turity	Marasmus, Con-genital Debility, Malforma-tions	All other causes
Knowsley	395	205	5·0	20·2	15·1	45·5	45·5	27·8	20·2	25·3
Mersey ..	365	194	2·7	5·4	21·9	27·3	54·7	27·3	27·3	27·3
Other Wards	*1406	116	1·4	3·5	8·5	20·6	25·6	24·1	13·5	19·2
Whole Borough	2166	145	2·3	6·9	12·0	26·3	34·1	25·3	17·0	21·6

*These include 20 births registered outside the Borough.

It will be seen that the infantile mortality in both Mersey Ward and Knowsley Ward is greater than that in the “ Other Wards ” in each of the diseases or groups of diseases mentioned above. The main cause of the excess in these wards, this year, is diarrhœa and enteritis. In both wards, convulsions, and marasmus and congenital defects are also important causes of the excessive mortality. In Knowsley Ward, measles, whooping cough and respiratory diseases are to be noted as large factors in the excess.

Throughout the Borough the rate of infantile mortality amongst legitimate children was 138, and amongst illegitimate 384 per 1,000 births, or more than one out of three of these generally unwanted children, died before attaining their first birthday.

51 or 16% of the deaths of children under one year occurred before the end of the first week ; 27% occurred before the end of the first month, and 45% before the end of the third month ; 20% of the deaths were of infants between the ages of three and six months, and 34% between six and twelve months. 92 or 29% of the 316 deaths were in the “ group of five ”

Prematurity, Atrophy, Debility, Marasmus and Congenital Debility; 68% of all the deaths under one month were due to these causes and 51% of those under three months. No less than 35 children prematurely born, died before the end of the first week of their lives.

In 1913 Diarrhœa and Enteritis caused 74 or 23% of the deaths, compared with 25 or 10% in 1912, and 93 or 30% in 1911.

There were 24 deaths from infectious diseases, viz. :—15 from whooping cough, 5 from measles, 1 from erysipelas, and 3 from syphilis. It is probable that the last figure does not give the full measure of the infantile deaths due to this disease.

A large amount of educational work will have to be done before the infantile mortality in Bootle can be reduced to normal proportions. Recent statistics have shown that an infant mortality rate of 50 is quite possible amongst certain classes and even in an industrial population, such as Bootle, it is lamentable that the rate has never yet been as low as 100, though at the same time the very great reduction which has occurred in the last ten years and which is clearly shown in the chart on page 20 must not be forgotten. In fact, a comparison of the 1912 rate with that of 1900 or 1904 is distinctly gratifying, but mainly because those rates were so unsatisfactory that improvement was not particularly difficult. It is disappointing that the rate has again reached that of 1911, when owing to exceptional weather, an epidemic of diarrhœa occurred; this disease was also very prevalent during 1913, but not quite to the same extent as two years ago.

Efforts to preserve infant life must be directed in, at least, four directions :—

1. Ante-natal care of infants and instruction to expectant mothers are necessary to prevent deaths from prematurity (47 deaths out of 88 occurring during the first month were due to prematurity).

2. Education as to infant feeding and management is needed to diminish the mortality from "atrophy, debility and marasmus." Nine per cent of the deaths under one year were recorded as due to this group—but lack of knowledge of infant feeding has a much more far-reaching effect than the records indicate, for a large number of deaths noted in the returns as caused by other diseases have "marasmus," as a secondary cause;

also, the amount of *sickness* due to improper feeding is enormous and has an effect on the child's health for many years.

3. Prevention of Infantile Diarrhoea by ensuring that the food of infants is clean ; the cleanest and purest of all infant foods is, of course, its mother's milk ; but failing that, a clean and pure supply of cow's milk should be obtainable and here also, instruction is necessary for the mother so that she may know the vital importance of storing it in a clean place and protecting it from contamination. Associated with this, there must be a campaign against the breeding places of flies. In short, to prevent mortality from diarrhoea, an anti-dirt campaign is necessary, associated with efforts to encourage breast feeding.

4. The fourth mode of attack should be directed towards the prevention of infectious diseases, especially measles and whooping cough. This also involves education of the mothers, for this purpose concerning the need for isolation and the dangers of these diseases to life. The question of isolation is associated with the housing problem, including sub-letting and the desirability of provision by the Local Authority of accommodation for cases of measles and whooping cough where efficient home isolation or nursing cannot be obtained.

It will be seen that an essential in each group is that the people most concerned shall be educated, and it is gratifying to be able to record that such instruction as is given by the two Lady Inspectors who visit all infants in the poorer neighbourhoods is well received in the vast majority of cases and the "Ladies from the Town Hall" are looked up to and respected even though they often have to find fault, give unwanted advice or draw attention to unwelcome home truths.

The first visit to an infant and its mother is paid as soon as the notification of the birth is received ; thus, as a rule, the babies are seen when they are 3 or 4 days old. A visit at this early date is particularly valuable in cases of premature and delicate children. Routine visits are paid to all infants about four times each year : special cases are visited more frequently. In 1913, 89·5% of the infants born in the town were visited ; the remaining 10·5% occurred in families where advice on infant care and feeding would probably be obtained from other sources. A system of weighing babies in their homes by small spring balances has been started,

A regular increase in weight is one of the most satisfactory proofs that a baby is thriving. The work of the Lady Inspectors is materially assisted by that of the Ladies of the Bootle Health Society, towards the funds of which the Health Committee make a contribution. During 1913, 372 cases were referred to the Society. Milk and bread were supplied to necessitous mothers for two or three weeks after the birth of their children, and in special cases until the children reached the age of twelve months. In a few cases milk was given to expectant mothers. The maternity benefit provided by the National Insurance Act, though very useful, does not abolish the need for the bounty of the Health Society, as a certain number, and amongst them those who most need the money, are not entitled to it; e.g., those mothers whose husbands have deserted them, or who are in arrears with their payments.

Despite all past effort, it is quite evident that with an infant mortality of 145, which means that out of seven children born, one dies before the end of the first year, something more must be done. There are two institutions found in towns where special steps are taken to reduce infant mortality, which Bootle does not possess. One is a depot for the distribution of humanised or specially prepared dried milk, and the other is a "School for Mothers" or an "Infant Welfare Centre."

There is a danger, perhaps not great, with regard to municipal milk depots, that breast feeding may not be sufficiently encouraged if it is known that a "substitute" is readily available, and even the most skilfully prepared "imitation" of human milk is by no means so suitable for infant feeding as the genuine article. But, with the proviso, that there should be no relaxation in efforts to promote breast feeding, a proposal to establish such a depot should be supported.

A "School for Mothers" would receive my heartiest support. Many such are now in operation: they have mostly been modelled on the St. Pancras "Mothers' and Babies' Welcome." The essential features are:

1. Provision for the regular weighing of infants at a centre.
2. The giving of advice to mothers as to their own health and the care of their infants. Reference is made to a medical practitioner if the child is not doing well. Sometimes informal talks are given to a number of mothers on nursing, cookery, etc., and instruction on how to make clothes for infants.

Further developments are the provision of dinners at cost price to nursing or expectant mothers; special "At Homes" for expectant mothers, etc.

Here is an excellent opportunity for the Bootle Health Society to extend their work and supply a real want which will assuredly diminish the present deplorably heavy sacrifice of infant life which occurs in certain quarters of the town.

CHILD MORTALITY.

In the second report on Infant and Child Mortality of the Medical Officer of the Local Government Board, attention is drawn to the fact that Bootle, as compared with the 100 largest towns, is the eighth highest in the death rate from 1 to 5 years.

During 1913, there were 179 deaths at these ages, 26 were due to measles, 20 whooping cough, 9 tuberculous meningitis, 5 other forms of tuberculosis, 2 scarlet fever, 1 diphtheria, 59 respiratory diseases (including 27 from broncho-pneumonia), 27 diarrhoea and enteritis, 7 wasting diseases and 6 to accident.

All efforts made to improve the condition of infants and reduce infantile mortality, will lessen the sickness-rate amongst infants, and this in time will enable the children to resist the "beginnings" of disease to which debilitated and neglected children who have been improperly fed during infancy are so liable, and which bring in their train more serious conditions.

ZYMOTIC DISEASES.

Table showing number of deaths from the principal zymotic diseases for 1913 and the preceding ten years.

	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	Average of 10 yrs 1903-12
Smallpox	6	—	—	—	—	—	—	—	1	—	—	0·7
Scarlet Fever	25	13	32	14	7	17	16	6	5	1	4	13·6
Diphtheria	9	19	18	11	14	14	10	6	11	8	4	12·0
Measles	2	48	9	44	16	34	68	22	21	62	33	32·6
Whooping Cough	16	41	20	30	28	42	3	32	22	16	37	25·0
Enteric Fever	12	2	4	7	8	5	2	2	3	1	1	4·6
Typhus Fever	—	—	—	—	—	1	3	—	—	—	—	0·4
Diarrhoea and Enteritis	101	145	104	114	68	78	79	77	144	40	106	95·0
Total	171	268	187	220	141	191	181	145	207	128	185	183·9
Rate per 1,000 of the population ..	2·84	4·40	3·03	3·37	2·13	2·84	2·65	2·09	2·95	1·79	2·56	2·78

It will be seen that the zymotic death-rate for the decennium 1903–1912 was 2·78 per 1,000 of the population ; 51% of this was due to Diarrhœa and Enteritis. During 1913 the total zymotic death-rate was 2·56 ; 57% of which was due to Diarrhœa and Enteritis.

NOTIFICATION OF INFECTIOUS DISEASES.

The following table shows the number of cases of infectious diseases notified during 1913.

	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	Average for 10 years. 1903-12
POPULATION.	60,155	60,880	61,612	65,174	66,145	67,127	68,120	69,122	70,130	71,152	72,186	65,961
Smallpox ...	122	—	—	—	—	—	—	—	1	—	—	12
Scarlet Fever	353	269	289	338	257	498	397	288	238	189	150	311
Diphtheria, including Croup	33	48	78	74	52	68	64	54	85	58	39	61
Typhus Fever	—	—	—	—	—	1	2	—	—	—	—	·3
Continued Fever	—	1	—	—	—	—	—	—	—	—	—	·1
Enteric Fever	61	22	24	40	42	30	15	12	16	11	12	27
Puerperal Fever	—	—	—	6	4	8	4	2	5	2	3	3
Erysipelas ...	25	37	32	38	32	34	36	26	33	33	35	32
Pulmonary Tuberculosis	21	40	22	18	7	24	*150	123	†188	‡186	295	—
Other forms of Tuberculosis	—	—	—	—	—	—	—	—	—	—	80	—

*Notification of Poor Law cases became compulsory.

†Notification of cases seen at voluntary hospitals became compulsory.

‡Notification of all cases of phthisis became compulsory.

On April 1st, 1912, the Infectious Disease (Notification) Act was extended so as to include Cerebro-spinal Fever and Acute Poliomyelitis. One notification of the former and three of the latter were received during 1912, but none last year. During the summer months, Infantile Diarrhœa was voluntarily notifiable, and 103 notifications were received.

A valuable report, recently issued by the Local Government Board, gives statistics of the incidence of notifiable infectious diseases in each Sanitary District in England and Wales, during the year 1913. The following table gives the notification-rates per 1,000 of the estimated population (in July, 1912), for six notifiable diseases for Bootle and certain other areas.

NOTIFICATION RATES. 1913.

	Estimated population in middle of 1912	Smallpox	Scarlet Fever	Diphtheria	Enteric Fever	Puerperal Fever	Erysipelas
ENGLAND AND WALES	36,539,636	0·00	3·57	1·39	0·22	0·05	0·63
78 County Boroughs	11,563,682	0·00	4·29	1·49	0·25	0·07	0·73
COUNTY BOROUGHS OF LANCASHIRE :—							
Barrow in Furness	64,589	—	3·59	2·71	0·05	0·06	1·07
Blackburn	133,560	—	2·01	0·60	0·23	0·06	0·68
Blackpool	59,831	—	1·74	0·75	0·27	0·10	0·40
Bolton	182,524	—	1·15	0·68	0·31	0·02	0·39
Bootle	71,153	—	2·12	0·55	0·17	0·04	0·52
Burnley	108,012	—	1·91	1·65	0·19	0·06	1·62
Bury	59,106	—	5·06	1·15	0·14	0·10	0·47
Liverpool	752,021	0·00	2·96	1·37	0·16	0·07	1·02
Manchester	723,531	0·00	5·39	1·01	0·45	0·19	0·60
Oldham	148,839	0·05	6·30	0·62	0·09	0·07	0·81
Preston	117,631	—	6·61	2·38	0·40	0·06	0·92
Rochdale	92,529	—	6·23	0·67	0·15	0·08	0·73
St. Helens	98,159	—	7·50	1·64	0·26	0·05	0·77
Salford	232,734	0·02	5·31	1·44	0·48	0·07	0·87
Southport	70,444	—	1·26	0·57	0·06	0·03	0·50
Warrington	73,215	—	3·28	1·48	0·40	0·10	0·74
Wigan	90,042	—	0·81	0·38	1·08	0·07	0·63
Administrative County of Lan- caster... ..	1,741,497	0·01	2·77	0·87	0·50	0·06	0·57
Aggregate of Boroughs and Urban Districts of Lancashire ...	1,498,534	0·01	2·75	0·84	0·50	0·06	0·60
Aggregate of Rural Districts of Lancashire	242,963	—	2·95	1·10	0·47	0·04	0·44
Administrative County of Chester	605,381	0·00	2·45	1·57	0·25	0·04	0·54
COUNTY BOROUGHS OF CHESHIRE :—							
Birkenhead	133,427	0·01	4·08	1·07	0·14	0·07	0·49
Chester	39,123	—	0·69	1·46	0·13	0·08	0·20
Stockport	110,787	—	1·59	0·84	0·42	0·09	0·59
Wallasey	81,805	—	3·88	0·56	0·23	0·02	0·28

For each disease the Bootle rates are below those for England and Wales, and for the 78 County Boroughs : the Diphtheria rate is lower in four County Boroughs only. It is hoped that when the National Insurance Act has been in operation for some time, details of the incidence of *all* forms of sickness will be available : a considerable portion of their value will, however, be lost unless they are published within a reasonable time after the expiration of the period to which they relate.

SMALLPOX.

No case of this disease has been notified in the Borough since 1911. In England and Wales, during 1913, 90 cases were notified, 48 of which occurred in towns connected with ports, including three in Liverpool and one in Birkenhead. In addition 25 cases were notified to Port Sanitary Authorities : 11 of these occurred in Liverpool.

By reason of its situation, Bootle is particularly liable to be invaded by this disease. Smallpox occurring in any port within some 12 days' distance from the Mersey is a potential source of danger, owing to the fact that a very large number of seafaring men reside in the town. During the year 67 contacts were reported to the Health Department by other Sanitary Authorities, and were kept under observation.

The Clerk of the West Derby Board of Guardians has informed me that during the year, 1,273 successful primary vaccinations, and 3 successful re-vaccinations were performed by the Public Vaccinator. The former are only 58% of the births registered.

SCARLET FEVER.

During the year 150 cases of scarlet fever were notified. The ward distribution was :—

Derby	Stanley	Mersey	Knowsley	Linacre	Orrell
52	..	12	..	10	..
26	..	40	..	10	

There were four deaths, all of children under the age of 15 years ; the death-rate per 1,000 of the population under 15 years, was 0·16. The rate per 1,000 of the total population was 0·05 compared with 0·06 throughout England and Wales.

The table gives a summary of the incidence of the disease since 1893 :—

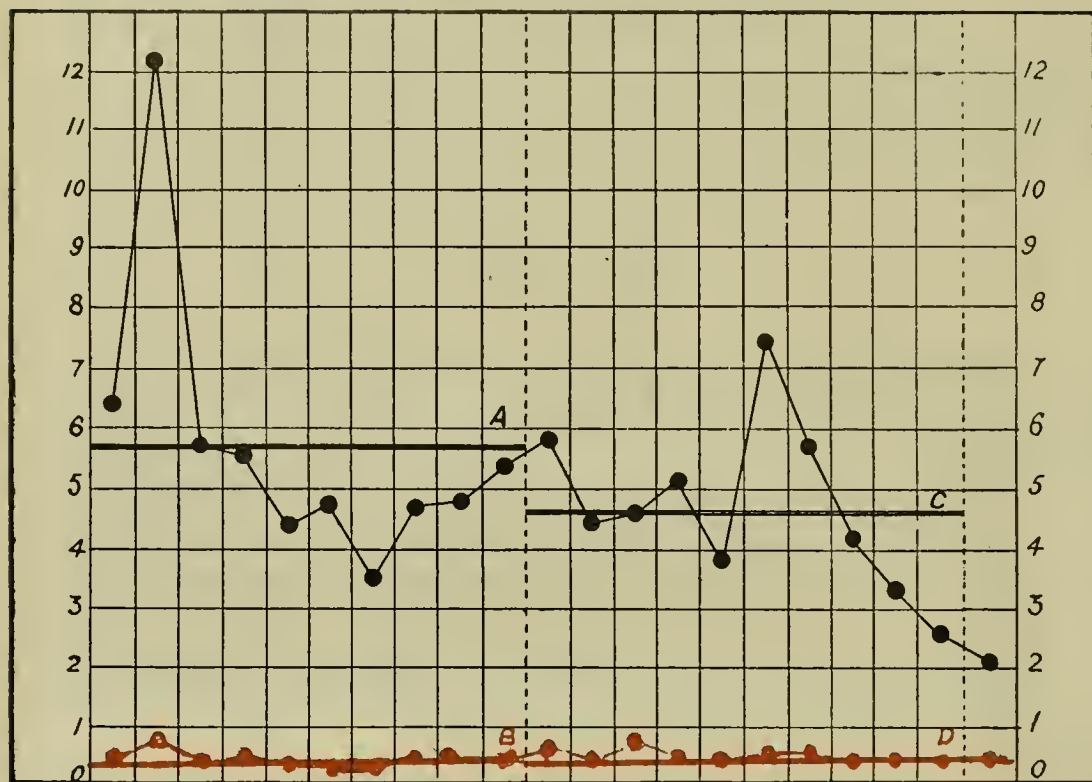
	Cases notified	Cases notified per 1,000 of the population	Percentage removed to hospital	Deaths	Death-rate per 1,000 of the population	Case Mortality per cent
Annual average for 10 years 1893–1902	319	.. 5·7	.. 51	.. 16	.. 0·3	.. 5·2
Annual average for 10 years 1903–1912	311	.. 4·7	.. 72	.. 13	.. 0·2	.. 4·3
1913	150	.. 2·0	.. 72	.. 4	.. 0·05	.. 2·6

It will be noted that the number of cases was less than one half the average number notified during the preceding ten years ; it is also the lowest recorded in the Borough, and this, despite the facts that epidemics of Scarlet Fever occurred in many Lancashire towns, and that as there has been a steady diminution in the number of cases in Bootle each year since 1908, there will now be a large number of susceptible children in the population.

The chart shows the yearly notification-rate (black line) and death-rate (red line) per 1,000 of the population since 1893 :—

SCARLET FEVER.

1893 '94 '95 '96 '97 '98 '99 1900 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13



A.—Notification-Rate per 1,000 of the population during the decennium 1893-1902 was 5.7

B.—Death-rate during the same period was 0.3 per 1,000 of the population

C.—Notification-rate per 1,000 of the population during the decennium 1903-1912 was 4.7.

D.—Death-rate during the same period was 0.2 per 1,000 of the population.

An effort was made in each case to determine the source of infection. Including "return" and "secondary" cases, there were 31 or 20% in which the source of the infection was fairly obvious. In an additional 14 there was some evidence pointing to a source, but a definite origin could not be found. In the remaining 70% the source of infection was entirely unknown.

Thirty notifications were received during the first quarter; 52, 29 and 39 during the second, third and fourth. The age distribution of the cases is shown in Table II at the end of this report. 48 cases of whom 2 died, occurred in children who did not attend school; there were 87 cases

and 2 deaths in children of school age, and 15 cases, all of whom recovered, in those above school age.

SCHOOL	Number of cases of Scar- let Fever	Attack- rate per 100 scho- lars on the rolls	SCHOOL	Number of cases of Scar- let Fever	Attack rate per 100 scho- lars on the rolls
Day Industrial School..	2	1·81	Gray Street	5	0·49
Christ Church	10	1·20	Bedford Road	2	0·14
St. John's	7	0·87	St. Winefrides'	3	0·1
St. Mary's	7	0·75	St. James' Select ..	—	—
Linaere	6	0·61	Boys' Secondary School	1	—
Hawthorne Road ..	6	0·61	Girls' Secondary School	—	—
Salisbury Road.. ..	9	0·61	Two Private Schools ..	3	—
Orrell	5	0·59	Three Schools, Elemen-		
St. James'	8	0·50	tary and Secondary, outside Borough ..	4	—

Nine others just over five years old, did not attend school.

68 cases occurred in the Public Elementary Schools of the Borough and the attack-rate was ·58 per 100 on the rolls..

Return Cases.—There was only one instance of a case of Scarlet Fever occurring in another member of the same family, shortly after a patient had returned from hospital. The percentage of return cases was 0·9 of those discharged. The infecting child was free from all complications when discharged from the hospital and remained quite well at home. The interval between the discharge and the onset of the second case was eleven days.

Multiple Cases.—In two instances, two “first” cases occurred simultaneously and were removed to hospital together; in a third there were three such cases,.

In the houses from which a first case or cases had been removed to hospital, 240 susceptible children remained at home. Twenty-two of these developed Scarlet Fever, whilst the first case was in hospital. Eleven of the cases were notified within a week of the first case; the remaining eleven at intervals, varying from ten to twenty-five days. Four subsequent cases were reported from the houses in which the first case was nursed at home; there were twenty-five susceptible children in these houses. Of the total of 265 susceptible children exposed to infection, 26 or 9·8% contracted the disease. It was only where isolation was considered to be efficient that the patients were not removed to hospital.

Total number of houses where :—	No. of houses.	Cases nursed at home.	Cases sent to Hospital.	Total Cases.
One member of family attacked	102 ..	32 ..	70 ..	102
Two members „ „ „	10 ..	6 ..	14 ..	20
Three „ „ „ „	5 ..	3 ..	12 ..	15
Four „ „ „ „	2 ..	1 ..	7 ..	8
Five „ „ „ „	1 ..	— ..	5 ..	5
	120 ..	42 ..	108 ..	150

The continuous decline in the number of cases of Scarlet Fever during recent years makes it appear as if the long-expected result of the provision of institutional treatment for it is at last producing a marked reduction, not only in the number of cases notified, but also in the number of deaths, owing to a lessened severity of the disease.

DIPHTHERIA.

Thirty nine cases of this disease were notified during the year ; this is the smallest number reported since 1903.

The ward distribution was :—

Derby	Stanley	Mersey	Knowsley	Linacre	Orrell
9 ..	10 ..	2 ..	5 ..	11 ..	2

Nine notifications were received during the first quarter : eight, nine and thirteen in the second, third and fourth.

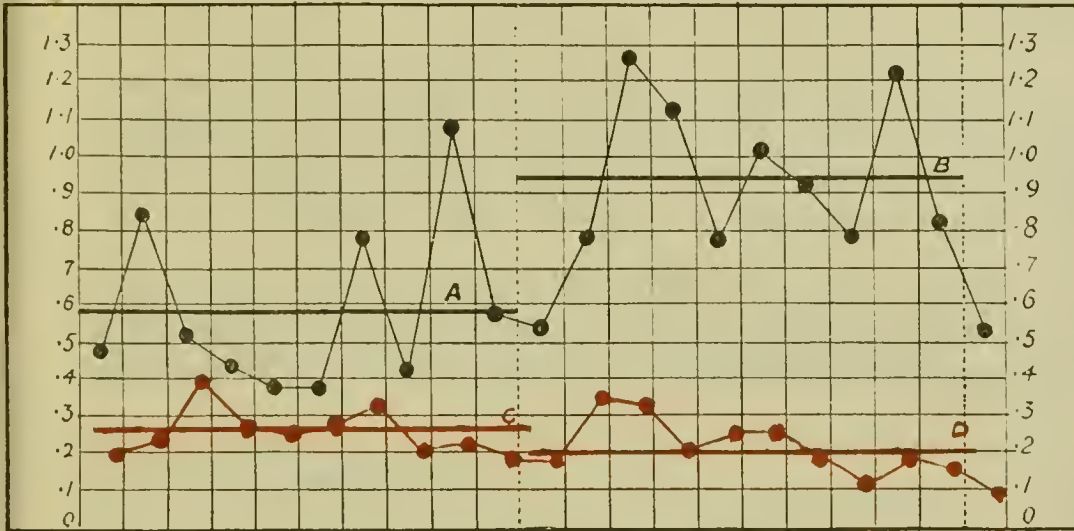
The age distribution of the cases is shown in Table II at the end of this report. There were four deaths corresponding to a death rate of .05 per 1,000 of the total population, and 0.16 per 1,000 of the population under 15 years. The death rate per 1,000 of the total population in England and Wales was 0.12. Fifteen cases with one death occurred in children below school age ; twenty cases with three deaths in children of school age ; four cases and no death in persons above school age.

The case-mortality amongst the younger children was thus 6.6% ; amongst those of school age it was 15%, the total case-mortality being 10.2. The notification rate as shown on page 27 was 0.55, and compares very favourably with that for England and Wales which was 1.39.

The chart shows the yearly notification-rate (black line) and death-rate (red line) per 1,000 of the population since 1893.

DIPHTHERIA AND CROUP (MEMBRANOUS).

1893 '94 '95 '96 '97 '98 '99 1900 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13



A.—Notification-rate per 1000, of the population for the decennium 1893-1902 was 0.59.

B.—Notification-rate per 1,000 of the population for the decennium 1903-1912 was 0.93.

C.—Death-rate for the same period was 0.21.

D.—Death-rate for the same period was 0.16.

Year.	No of Notifications.	Deaths.
1893	25	8
1894	44	10
1895	27	19
1896	23	12
1897	21	11
1898	21	13
1899	45	17
1900	24	10
1901	64	11
1902	34	8
1903	33	9
1904	48	19
1905	78	18
1906	74	11
1907	52	14
1908	68	14
1909	64	10
1910	54	6
1911	85	11
1912	58	8
1913	39	4

The following table gives particulars of the cases of diphtheria and membranous croup notified in Bootle during the past year and the preceding ten years.

	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	Average for 10 years 1903-12
Number of cases notified	33	48	78	74	52	68	64	54	85	58	39	61
Number of deaths	9	19	18	11	14	14	10	6	*11	8	4	12
Death-rate per 1,000 of the population...	.14	.31	.29	.16	.20	.20	.14	.08	.15	.11	.05	.18
Number of cases admitted to hospital	20	35	49	42	36	37	42	39	60	38	31	39
Number of deaths in Corporation Hospital	4	12	9	7	7	6	5	4	6	5	3	6
Number of cases requiring tracheotomy	4	9	8	11	8	1	3	4	9	1	4	5
Case-mortality amongst those nursed at home	...	...	...	...	...	...	...	...	...	...	...	1913 25.4%
Case-mortality amongst those treated in hospital	...	...	...	...	...	...	...	...	...	...	...	1903-12 16.3%
Total Case-mortality	...	...	...	...	...	...	...	...	...	...	...	19.5%

*Of the 11 deaths registered in 1911, 3 were of cases notified in 1910.

During the year 5 cases occurred amongst the children attending one school, and 3 each amongst those of two other schools. In 6 schools no case occurred.

In twelve houses in which a case of diphtheria had occurred, some sanitary defect, usually of a minor character, was found. The infection in diphtheria is conveyed from person to person, and defects in drainage, though they may predispose to the disease, cannot cause it.

During the year 18,000 units of diphtheria anti-toxin were supplied gratis to medical men for the use of their more necessitous cases ; four practitioners availed themselves of this privilege on behalf of four patients.

In diphtheria, multiple cases are not so common as in scarlet fever ; but in one instance, two cases occurred in the same house.

ENTERIC FEVER.

During 1913, one death was certified to be due to this disease ; he was a resident of Bootle who died in Wales, and the death was transferred. The death-rate was 0·01, which is much less than the rate, 0·04 for England and Wales.

Twelve notifications were received, 6 cases were removed to Linacre Hospital ; one was a nurse in that Institution, in 3 of these 7 cases the diagnosis was confirmed bacteriologically. Three cases were nursed at home ; and of the remaining two, one was treated at the Bootle Royal Hospital, and the other at the Mill Road Infirmary.

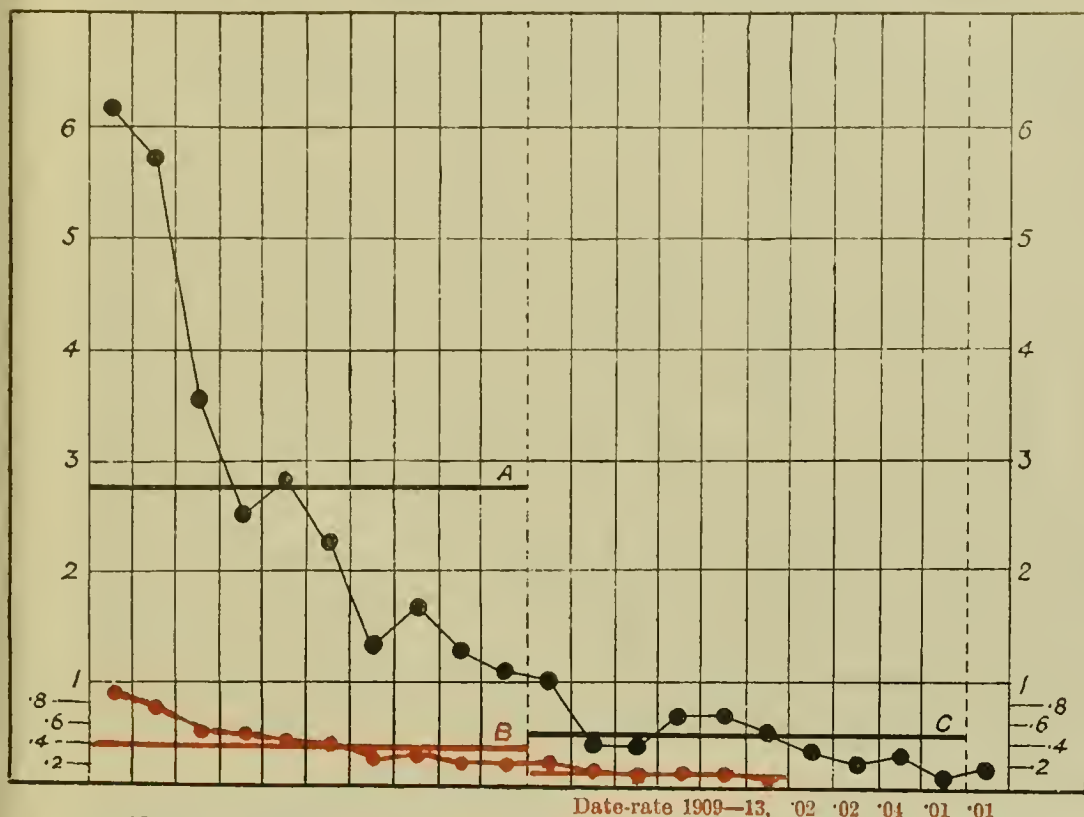
Three of the cases were sea-borne.

The notification-rate was 0·17 per 1,000 of the population, and as will be seen from the table on page 27 it may be regarded as satisfactory.

The following chart which shows the yearly notification-rate (black line) and death-rate (red line) from Enteric Fever per 1,000 of the population since 1893, is a testimonial to the foresight of those who urged the conversion of privies into water closets. The work was commenced in 1893, in which year the number of notifications received was 320 : in 1913 there were 12 notifications.

ENTERIC FEVER

1893 '94 '95 '96 '97 '98 '99 1900 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13



A.—Notification-rate for the decennium 1893-1902 was 2.74 per 1,000 of the population.

B.—Death-rate for the same period was 0.38 per 1,000 of the population.

C.—Notification-rate for the decennium 1903-1912 was 0.41 per 1,000 of the population.

D.—Death-rate for the same period was 0.69 per 1,000 of the population.

Year.	Notifications.	No. of Deaths.
1893	320	46
1894	294	33
1895	187	23
1896	132	24
1897	149	20
1898	124	17
1899	77	10
1900	97	16
1901	76	12
1902	62	11
1903	61	12
1904	22	2
1905	24	4
1906	40	7
1907	42	8
1908	30	5
1909	15	2
1910	12	2
1911	16	3
1912	11	1
1913	12	1

TYPHUS FEVER.

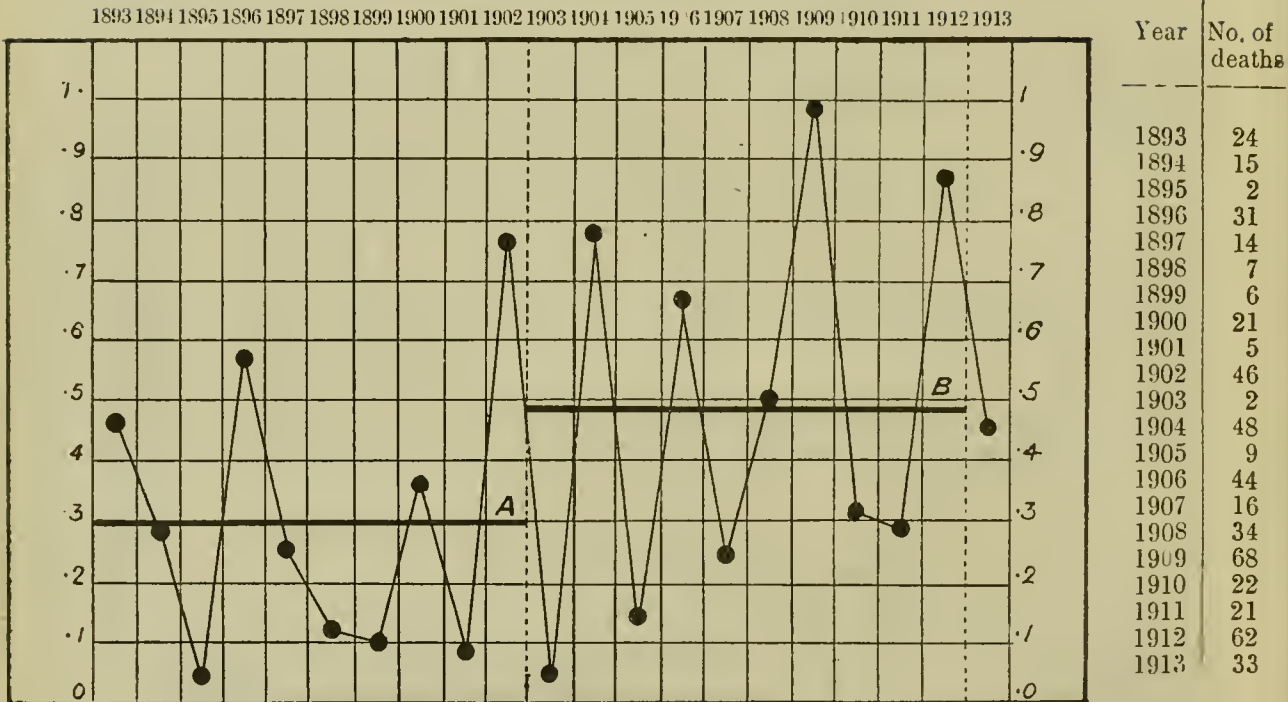
No case of this disease has been reported in Bootle since 1909, but four cases were reported during 1913, in the neighbouring City of Liverpool.

MEASLES.

During 1913, Measles caused 33 deaths, which is a death-rate of 0.45 per 1,000 of the population. The rate for England and Wales was 0.28. The following chart shows the mortality from this disease in Bootle per 1,000 of the population since 1893.

MEASLES.

Chart showing the number of deaths from Measles per 1,000 of the population for the past 21 years.



A.—Death-rate from Measles per 1,000 of the population for the decennium 1893-1902 was 0.30.

B.—Death-rate from Measles per 1,000 of the population for the decennium 1903-1912 was 0.49

The following table shows the death-rate from measles at different age groups :—

Age	Under 1 year	1 to 2	2 and under 5	5 and under 15	15 yrs & older
Number of Deaths ...	5	14	12	2	—
Death-rate ...	2.3	8.0	2.2	.12	—
	Per 1,000 births	Per 1,000 of the estimated population at these age groups			

The death-rate in Bootle per 1,000 of the population under 15 years was 1.33.

The two children between the ages of 5 and 15 years were aged 5 and 6 years respectively.

The epidemic which commenced in the Autumn of 1912, continued until the summer of 1913. A total of 343 cases was notified by the Head Teachers or the School Attendance Department : 69 cases were reported

immediately after the re-opening of the schools in January and an average of 12 a week until the Easter holidays; 24 at the conclusion of these holidays and an average of 8 each week until the summer vacation. After that, until the close of the year there were only fourteen cases altogether.

The disease spread from one school to another, but the incidence was never very great in more than one or two schools at the same time. Exclusion of individual children was carried out, and in most schools this was found sufficient to cope with the epidemic; but, in the course of the year it was necessary to close two Infants' Departments out of the twelve in the town, because of the excessive number of cases which occurred there. Bedford Road was the first Infants' Department in which closure was considered necessary. On January 16th, one case was notified, on the 22nd, 4 others, 5 on the 29th, 2 on the 31st, and 22 between the 3rd and 11th of February. These 34 cases, together with 8 contacts who were excluded, represented 11·8% of those on the school roll and the department was closed from February 11th until March 3rd; during this period the school was disinfected and cleansed. On re-opening, the scholars were medically examined and all suspects excluded. Within three days of the re-opening, 34 new cases were reported, many of whom had developed the disease shortly after the school closure. Five cases which developed on March 11th and 13th were infected whilst the school was closed. These figures show in a striking fashion:—

(a) The withdrawal of the source of information as soon as the school is closed.

(b) That children continue to be infected, presumably by playing together in the street, in each other's houses, or by congregating at entertainments or other places, even though the day school is closed.

Both Measles and Whooping Cough were prevalent in the Infants' Department of Orrell School on April 10th, when its closure was required by the Sanitary Authority; of the 222 children on the roll, 36 were suffering from Whooping Cough and 11 from Measles, whilst 10 contacts were also excluded. They formed 25·6% of those on the roll. The Department re-opened on April 28th; 6 new cases of Whooping Cough developed within fourteen days of the re-opening. During the closure of the day schools, all the infant classes of the Sunday Schools usually attended by the excluded children were closed at the request of the Medical Officer of Health.

Though Measles occurs fairly frequently amongst children of school age, it is not, as a rule, a fatal disease in patients who have reached the age of five years. Of the 343 school cases, it was fatal in one instance.

To effectually control the disease, the following are necessary :—

1. An early knowledge of the existence of the cases.
2. Provision for isolation of all cases.
3. Means for nursing cases complicated by pneumonia, and
4. Education of the public as to the seriousness of the disease and the danger of purposely exposing infants to infection in order to “get the measles over.”

With regard to the first requirement—all the cases notified from school were visited, but there was sometimes an interval of several days between the onset of the disease and its notification ; this was due in certain cases to the fact that teachers were not given the real cause of absence, but told that “bronchitis,” a “heavy cold,” or some other ailment was the reason for non-attendance. Only very occasionally are teachers informed of the existence of measles in a young child not of school age in a house from which older children attend school.

An enactment requiring the notification by the parents to the Head Teachers, of measles occurring in the homes of any of the scholars would be valuable. In 20 of the 33 fatal cases the first intimation to the Health Authority of their occurrence was the entry in the register of deaths ; in six other cases, information was received as the result of a Lady Inspector calling at the house ; in four instances for a “routine” visit to a baby, in one to a phthisis case in the same house, and in another to obtain particulars about a case of measles recently fatal in that house. Seven of the fatal cases were visited before death as a result of notification from school ; in four instances because an elder child of school age was suffering from measles and in three, because the teachers had happened to hear of the existence of the disease at the house and wished the older children to be excluded.

The second requirement—isolation—is very difficult to secure in many of the houses and even when it is possible, it is not effectually carried out owing to popular indifference to and ignorance of the disease.

In twenty of the fatal cases, or 60%, bronchitis or pneumonia was recorded as a secondary cause of death. A case of pneumonia following measles is not usually admitted to a general hospital for fear of infecting the other children, hence it often happens that skilled nursing which is the essential factor in the treatment of a severe case of pneumonia cannot be procured. The provision of hospital accommodation for the worst cases would fulfil a useful purpose.

WHOOPING COUGH.

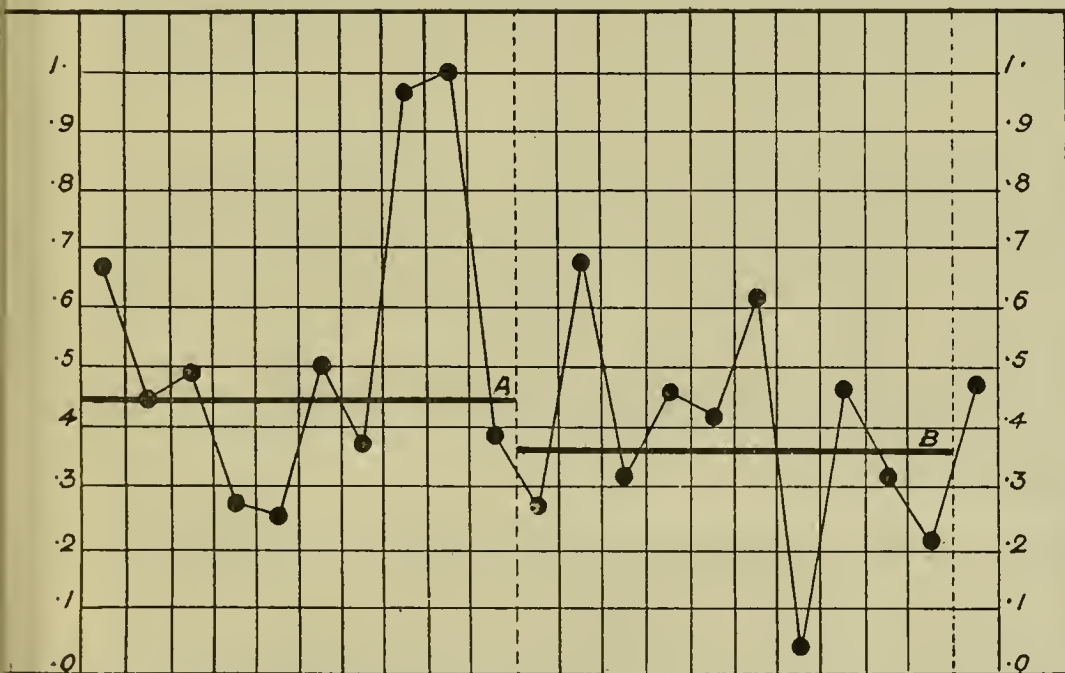
Whooping Cough caused 37 deaths during 1913. This is equal to a rate of 0.51 per 1,000 of the population.

The death-rate from this disease throughout England and Wales was 0.14 per 1,000.

The death-rate for each year since 1893 is shown in the chart.

WHOOPING COUGH.

1893 '94 '95 '96 '97 '98 '99 1900 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13



Year	No. of deaths.
1893	34
1894	23
1895	26
1896	15
1897	14
1898	28
1899	21
1900	56
1901	6
1902	23
1903	16
1904	41
1905	20
1906	30
1907	28
1908	42
1909	3
1910	32
1911	22
1912	16
1913	37

A.—Death-rate from Whooping Cough per 1,000 of the population for the decennium 1893-1902 was 0.44.

B.—Death-rate from Whooping Cough per 1,000 of the population for the decennium 1903-1912 was 0.37.

The numbers of deaths at each age group and the death-rates in these groups are as follow :—

	Under 1 year	1 to 2	2 and under 5	5 and under 15	15 years and older.
Number of Deaths	15	11	9	2	—
Death rate . .	6.9	6.3	1.7	.12	—
	Per 1,000 births.	Per 1,000 of the estimated population at these age groups.			

Of the two who were in the age group 5 to 15 years, one was 5 and the other 6 years of age. The death rate per 1,000 of the estimated population under 15 was 1.4.

170 cases were notified to the Health Department by the officers of the Education Authority. As in cases of measles, an inspector visited each notified patient and gave instructions concerning isolation. The parents were also recommended to call in the aid of a medical man, and sometimes this advice was acted upon. Similar difficulties prevent efficient control of both measles and whooping cough, but whooping cough attacks children of a somewhat younger age. Of the fatal cases, 6 were less than three months old ; 9 were under 6 months and 15 under one year. Pneumonia or bronchitis was the secondary cause of 19 out of the 37 deaths.

Of the 37 children who died, 26 were not heard of by the Health Authority until after the occurrence of the death, 11 of the fatal cases were visited prior to death, 6 as the result of a notification of a case in the same house in a school child : and in 5 instances the case was discovered in the course of routine visits to infants.

42.2% of the school children medically examined last year had suffered from whooping cough before admission to school compared with 67.9% from measles.

CASES OF INFECTIOUS DISEASES REPORTED BY THE EDUCATION AUTHORITY.

In addition to the 343 cases of measles and 170 of whooping cough reported by the Education Authority to the Medical Officer of Health, there were also reported 127 cases of chickenpox and 268 of mumps. All these cases were excluded from school as also 102 contacts of cases of

measles, 60 whooping cough contacts and 18 chickenpox contacts. To these 1,700 visits were paid. A table in the School Medical Officer's Report gives particulars of the schools ordinarily attended by children suffering from these diseases.

CEREBRO-SPINAL FEVER AND ACUTE POLIOMYELITIS.

No cases of these diseases were notified during the year. Cerebro-spinal fluid will be examined at the request of any practitioner.

ERYSIPELAS.

Thirty-five notifications of this disease were received, or 0·5 per 1,000 of the population, which compares favourably with a rate in England and Wales of 0·63. Most of the cases were slight, but one in an infant under one year, was fatal, and another in a patient over 65 years.

SCHOOLS.

The schools are regularly inspected, and several minor sanitary defects were discovered and rectified. The Medical Officer of Health is the School Medical Officer, and full details of the work of inspection of schools and scholars are given in his report to the Local Education Authority.

DIARRHŒA AND ENTERITIS.

The official classification includes deaths from gastro-enteritis, gastro-intestinal catarrh, mucro-enteritis and colitis. In this portion of the report, to save repetition, the term "diarrhœa" is used to include enteritis and all the above-named diseases.

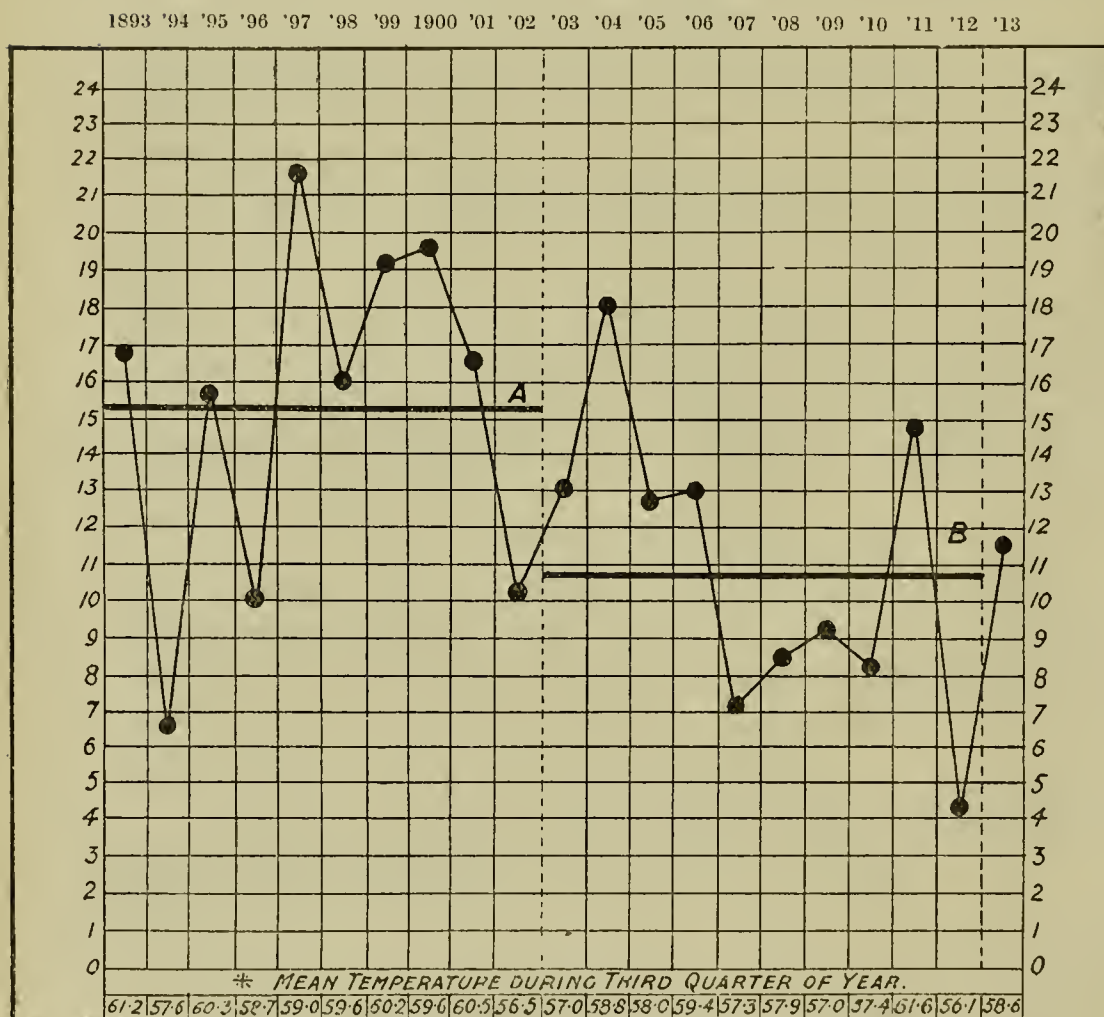
The deaths at all ages numbered 106 which is a rate of 1·46 per 1,000 of the population; the age distribution and death-rates were:—

Age in years . .	Under 1	1-2	2-5	5-15	25 and under 45	45 and under 65	65 and upwards
Number of deaths	74	25	2	1	1	3	—
Death-rate . .	34·1	14·4	0·37	0·06	0·04	0·28	—
	per 1,000 births	per 1,000 of the estimated population at these age groups.					

The epidemic form of the disease generally occurs in children under the age of 2 years. The death-rate in children under that age per 1,000 births throughout England and Wales was 23·4, and in the 96 great towns it was 29·3 compared with a rate in Bootle of 45·7.

The chart shows the death-rate from diarrhoea per 1,000 of the population under 5 years, of children under 5 for the past 21 years, and also the mean temperature at Bidston Observatory during each third quarter. It is impossible to give the figures for children under 2 for more than the past few years. As a comparative statement, the graph of the death-rate under 5 is of almost equal value.

DIARRHŒA AND ENTERITIS.



Year	No. of Deaths (under 5 yrs.)
1893	109
1894	42
1895	102
1896	66
1897	144
1898	109
1899	132
1900	138
1901	119
1902	74
1903	96
1904	135
1905	96
1906	104
1907	59
1908	70
1909	75
1910	70
1911	128
1912	37
1913	101

A.—Death-rate from these diseases for the decennium 1893-1902 was 15.3 per 1,000 of the population under 5.

B.—Death-rate from these diseases for the decennium 1903-1912 was 10.8 per 1,000 of the population under 5.

*Supplied by Mr. Plummer, M.A., of the Bidston Observatory.

In nearly every case in which a feeding bottle was necessary, the boat-shaped variety was in use; these are supplied to necessitous mothers free of charge.

The number of rooms occupied by the families in which the 92 deaths occurred were :—

1 room	2 rooms	3 rooms	4 rooms	5 or more rooms	Total
4	12	5	29	42	92

Minor sanitary defects were noted in 15 of the houses in which a death had occurred.

The length of illness in the fatal cases was :—

	DAYS.							Under one week	WEEKS.			Over one month	Over one week	Total
	1	2	3	4	5	6	7		1-2	2-3	3-4			
Number of Cases	1	4	9	8	7	4	4	—	37	11	12	7	25	55

The following points have been elicited by an examination of the cards containing particulars of these deaths :—

1. In the cases of the four families who lived in one room each and the twelve who lived in two rooms each, there was no proper accommodation for the storage of food. In many of the larger houses, such accommodation as exists, was not properly used. Concerning over one-third of the families in which a death from Diarrhoea occurred, a note was made that milk was left uncovered for long periods on a table, or on a shelf, in the scullery or living room.

2. In 18 of the 92 cases, special mention is made of the excessive number of flies in the house. In 10 of these, stables were within a short distance of the houses. Enormous numbers of flies were seen in several houses in the Strand Road area.

3. In 8 cases the mothers were either incompetent or addicted to alcohol.

4. In 26 cases the mothers went out to work and left the infant in charge of an elder child.

5. In 7 instances a case of Diarrhoea, sometimes very slight, had occurred just previously in the same family.

To reduce the prevalence of this disease, steps must be taken—

(a) to secure clean and suitable food for infants, especially during the summer months, and

(b) to protect all food-stuff from contamination by

1. endeavouring to secure its storage in suitable places ;
2. requiring every house to be kept in a cleanly state, and
3. reducing the number of flies ; this can be done by eliminating their breeding-places, especially manure heaps and ashpits. The role of the fly in conveying infection from filth and garbage to milk, sugar and other food, need not now be laboured.

The following methods were employed to control the disease, but their success was not so great as had been hoped.

1. Frequent visitation of infants by Lady Inspectors.
2. Special inspection of ashpits and an endeavour to secure their proper use.
3. Emptying of ashpits in certain districts every ten days.
4. Employment of an extra gang to flush the back passages and smaller streets.
5. Visits to stables with a view to having the manure removed every week.

EXTERMINATION OF RATS.

The Rat Exterminator, Mr. Borrows, continues to do good work ; he regularly visits the park, refuse destructor and sewers, and has attended to many complaints of rats occurring in private houses and in certain of the schools, where their presence caused considerable apprehension. Many shopkeepers and others who were formerly much troubled with these pests are now almost free. 184 rats, including 118 young ones, were trapped in the sewers in fourteen days of June, 1913, and 105 in twelve days of December, 1913. The number caught in fourteen days in December, 1910, was 340.

Apart from the value of an efficient rat exterminator in case of plague in rat or man, the numerous calls for his services are a sufficient indication that the holder of the appointment is fulfilling a useful public service, which is much appreciated by those who require his help.

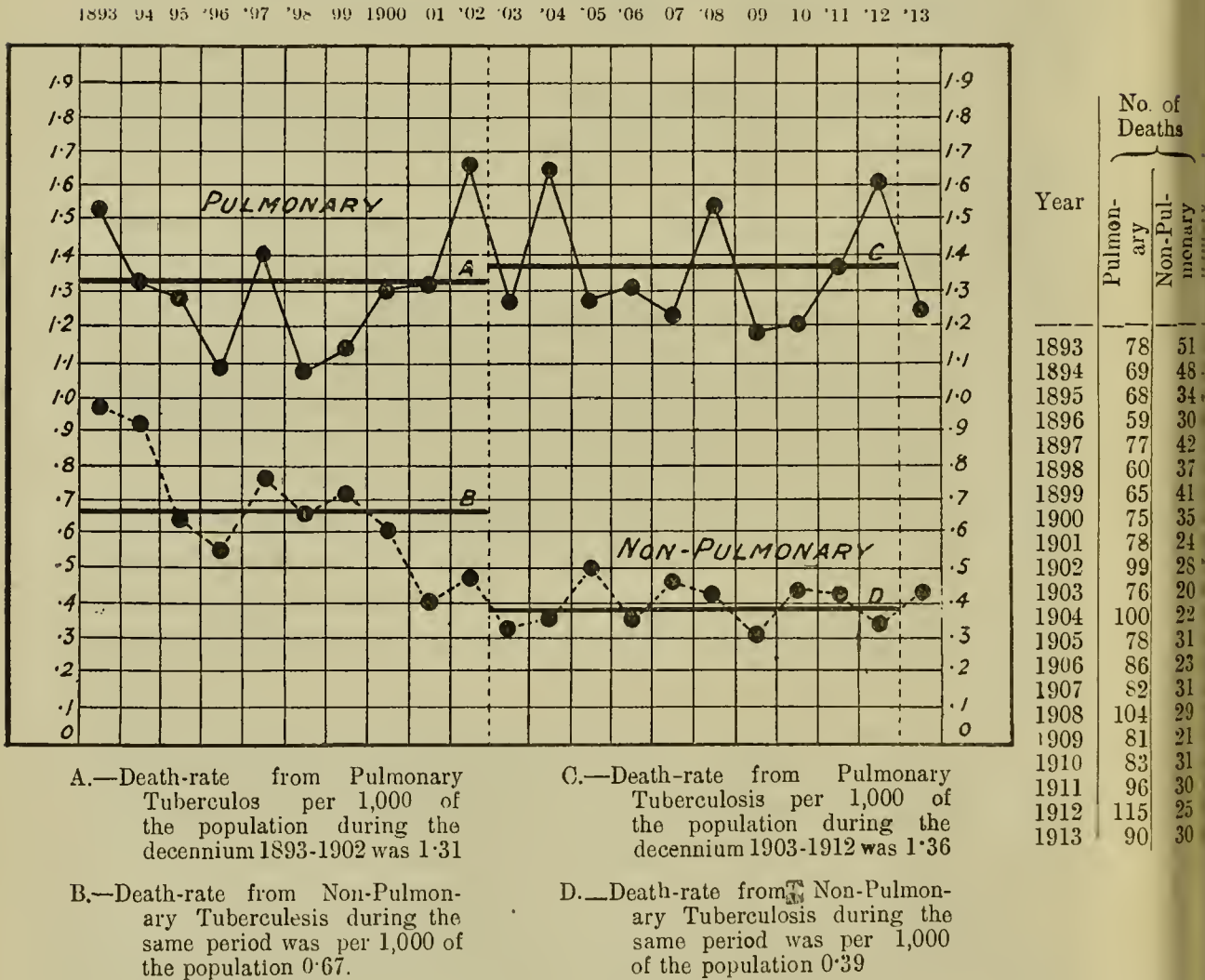
A plague rat was discovered in Bootle in 1911, and in view of the fact that Bootle warehouses contain at one time or another, goods from all the countries where plague is prevalent, a similar discovery may be made at

any time. It is certainly the best policy to have an expert already in the service of the Corporation, rather than trust to obtain someone when the occasion arises.

TUBERCULOSIS.

This disease in 1913 caused 120 deaths, or one death in every eleven. The death-rate per 1,000 of the population was 1·66. The standardised rates for Bootle are, males 1·77, females 1·51—both sexes 1·63. The rates for England and Wales for 1912 are, males 1·56, females 1·17. The chart shows separately the death-rate per 1,000 of the population from phthisis and from other forms of tuberculosis during the past 21 years.

TUBERCULOSIS.



PHTHISIS.

During 1913, 90 deaths were certified to be due to phthisis, being a death rate of 1·24 per 1,000; this is also the standardised death-rate. The chart shows that it is much smaller than the rate recorded in Bootle in 1911, and is below the average of the preceding ten years.

From the table on page 12 it will be seen that the Bootle rate cannot be considered satisfactory, though it does not occupy the unenviable position of last year, when it was one of the highest recorded. There were 47 deaths of males and 43 of females. The crude death-rate per 1,000 of the population is for males 1·35, (which when standardised for age and sex distribution becomes 1·34), and for females 1·14; the standardised rate for females is the same as the crude. The rates for England and Wales, in 1912, were, males 1·21, females 0·87.

The following table gives the number of deaths from phthisis in each ward for 1913 and the previous ten years :—

	Derby.	Stanley.	Mersey.	Knowsley.	Linacre.	Orrell.	Total.	Rate per 1,000 of the population
1903 ..	9	12	22	18	15	—	76	1·26
1904 ..	15	12	31	31	11	—	100	1·64
1905 ..	12	8	27	15	16	—	78	1·26
1906 ..	6	9	27	17	21	6	86	1·30
1907 ..	14	11	13	11	30	3	82	1·23
1908 ..	13	12	34	16	26	3	104	1·54
1909 ..	15	9	18	20	15	4	81	1·18
1910 ..	10	16	19	14	19	5	83	1·20
1911 ..	21	13	29	12	20	1	96	1·36
1912 ..	17	12	29	28	25	4	115	1·61
1913 ..	12	10	17	20	28	3	90	1·24

Average for the Decennium

1903–1912..	13	11	24	18	19	3	90	1·36
-------------	----	----	----	----	----	---	----	------

The rates per 1,000 of the estimated population in the various wards are :—

Rate for the Decennium

	Derby.	Stanley.	Mersey.	Knowsley.	Linacre.	Orrell.
1903–1912..	0·99	0·97	1·92	1·45	1·33	*0·85
1913 ..	0·77	0·87	1·44	1·62	1·67	0·67

*For years 1906–1912 only.

Since January 1st, 1912, all cases of phthisis have been compulsorily notifiable; cases occurring in hospital practice have been notifiable since

May 1st, 1911, and Poor Law cases since January 1st, 1909. There has been a system of voluntary notification in Bootle for many years.

The following table compares the origin of the notifications with that of previous years :—

			1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913
Notifications by Private Practitioners	...	...	22	21	40	22	18	7	24	26	28	20	105	183
Notifications by Medical Inspector of Scholars	...		—	—	—	—	—	—	—	—	—	8	5	7
Notifications by Tuberculosis Officer	...	...	—	—	—	—	—	—	—	—	—	—	—	4
Cases notified by Poor Law Medical Officers	...		—	—	—	—	—	—	—	124	95	129	52	53
Cases notified by Medical Officers of Voluntary Hospitals	...	...	—	—	—	—	—	—	—	—	—	31	24	48
			22	21	40	22	18	7	24	150	123	188	186	295

In the above table *first* notifications only are recorded. During 1913, 42 second or subsequent notifications were received from Private Practitioners; 61 from Poor Law Medical Officers; and 146 from Hospital Medical Officers.

In addition to the above, 7 cases were investigated in 1913, of which the first intimation was received from the death returns; this number for 1912 was 8, for 1911, 24, and for 1910, 34.

Particulars of the age and sex of the cases notified during the calendar year are given in the table.

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1912.
SUMMARY OF NOTIFICATIONS RECEIVED DURING 1913.

Age Periods	Number of Notifications on Form A											Number of Notifications on Form B.				Number of Not-ifications on Form C.		
	Primary Notifications											Total notifications, i.e., including cases previously notified by other doctors.				Poor Law Institutions	Sana- toria	
	Total notifications, i.e., including cases previously notified by other doctors.											Primary Notifications						
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards	Total	Un-der 5	5 to 10	10 to 15			Total
Pulmonary—Males ... Females	1 2	3 4	17 15	13 14	14 8	16 14	31 25	27 21	24 15	13 2	1 2	160 122	1 —	4 5	2 1	7 6	27 12	11 11
Non-Pulmonary—Males Females	2 1	8 5	13 9	5 8	3 3	5 4	2 3	1 —	— —	— 1	— —	39 34	— —	1 3	1 2	2 5	2 1	— —

Forms A. and B. are those used to notify cases not previously reported by the notifying practitioner. Form B. is used by the School Medical Officer; Form A. by Private Practitioners and others; Form C. is used by Medical Officers of Hospitals and Sanatoria when reporting the admission of a case of Tuberculosis which has been previously notified.

The 302 cases investigated by the Public Health Department during the year were of the following ages :—

			Number who died before close of year.		Surviving cases.
Under 15 years	..	..	7	..	75
15-25	„	..	7	..	47
25-35	„	..	10	..	49
35-45	„	..	14	..	34
45-55	„	..	18	..	22
55-65	„	..	5	..	11
Over 65	„	..	1	..	2
			62	..	240

Of the 62 fatal cases, 34 were males and 28 females. Of the 240 survivors, 136 are males and 104 females.

The following table, which gives the period between notification and death of the cases which proved fatal during 1913, shows that a large number are not brought under the observation of the Health Department until they are in an advanced stage of the disease. Phthisis generally attacks a person some years before it proves fatal :—

Not notified : information taken from death returns.	Period between notification and death.									Total
	1-4 days.	4-7 days.	1-4 weeks.	1-2 months.	2-3 months.	3-6 months.	6-12 months.	1-2 years.	2-3 years.	
7	11	4	14	8	15	14	7	9	1	90

The following table gives the occupations of the persons whose cases were investigated during 1913.

No of cases.		No of fatal cases.	No of non-fatal cases
7	Below School Age.....	2	5
60	School Children	4	56
54	Housewives and Widows.....	14	40
37	General Labourers.....	10	27
24	Dock Labourers.....	5	19
19	Clerks	5	14
19	Factory Hands	5	14
8	Domestic Servants	—	8
8	Seamen	3	5
7	Engineers	2	5
5	Ships' Stewards.....	1	4
5	Laundresses	2	3
4	Firemen	1	3
3	Publicans	—	3
3	Carters	—	3
3	Shop Assistants.....	1	2
2	Charwomen	—	2
2	Apprentices	—	2
2	Painters	—	2
23	Other Employed Persons.....	5	18
7	No Occupation (above school age).....	2	5
302		62	240

The location of 95 cases of phthisis who had been notified in previous years was known at the beginning of 1913 ; during that year enquiries were made concerning 302 other patients. Of the total of 397, 90 died, including 28 of the 95 previously notified ; 250 were being visited at their homes at the end of the year ; 16 were in workhouse hospitals ; 15 were in other hospitals or sanatoria (including 7 insured and 8 non-insured) ; the others, who numbered 26, had either removed out of the town, and their addresses were notified to the Medical Officers of Health into whose districts they had gone, or could not be traced.

The following gives information concerning the isolation of the patients or the lack of it.

	On first visit.						Afterwards.
No. who occupied a separate bedroom						97	168
No. who occupied a separate bed in a room occupied by :							
1 other person						8	11
2 „ persons						15	16
3 „ „						2	2
Many other persons (Common Lodging Houses)						6	6
No. who occupied a bed in common with :—							
1 other person						92	52
2 „ persons						43	21
3 „ „						11	5
2 beds in room :—							
2 persons in each bed						15	9
More than 2 persons in each bed						2	2
Kitchen—							
Alone						2	2
Parlour—							
Alone						2	1
First intimation received in death returns.. ..						7	7
						302	302

In the cases of the seven un-notified persons: 4 occupied prior to death a separate room; 2 slept each with one other person, and in one case, 2 others slept in the same bed as the patient.

These figures show that improvement in the sleeping arrangements of a consumptive can often be effected as the result of a visit to the home during which the infectious nature of the disease is explained, but it also shows that unsatisfactory arrangements continue in a considerable number of cases. In practically every house in which the arrangements continue to be unsatisfactory, it is impossible for the patient to be provided with better accommodation unless the family remove to a larger house—often an impossibility owing to lack of funds. Six patients lived in common lodging houses and 83 in sub-let houses.

During 1913, considerable progress was made towards the establishment of a complete anti-tuberculosis scheme on the lines laid down in the Astor Report.

Home Treatment (Dispensary and Domiciliary).—In August, Dr. Laird was appointed Tuberculosis Officer; he acts for Bootle during three-fifths of his time and for the adjacent portion of the County of Lancaster during the remaining two-fifths. He was provided with office accommodation at 80 Irlam Road. A whole-time Tuberculosis Nurse was appointed at the same time and arrangements were made for the Resident Medical Officer of the Linacre Hospital for Infectious Diseases (to which cases of phthisis are admitted) to attend the office at certain times.

Dispensary treatment is provided by the Tuberculosis Staff for the whole community. Dr. Laird visits notified cases at their homes, for the purpose of examining contacts and endeavouring to improve the home conditions; patients also visit him at his office for examination and treatment. The Tuberculosis Officer cannot regularly attend in their homes those patients who are bedfast; these are recommended, if insured, for domiciliary treatment by their panel doctor; if non-insured, they are required to make their own arrangements for such treatment, but, whenever possible, these cases will be taken into the hospital.

The Tuberculosis Officer gladly sees doubtful cases with a private practitioner, or at his request; specimens of sputum are examined and the result reported to the doctor in charge of the case. No notified patient is examined by the Tuberculosis Officer unless his usual medical attendant, if any, has signed a form transferring him to the Tuberculosis Department.

No visit is paid to any case in which the notifying practitioner has written "no visits necessary" upon the notification form.

A very large amount of work has been carried out by the Tuberculosis Staff since they commenced duty on August 18th, 1913.

Up to the end of December, the Tuberculosis Officer had examined 269 persons, 96 insured and 173 non-insured; 737 attendances had been made at the office, 327 by insured, 410 by non-insured persons; 1781 visits had been paid to the homes of tuberculous persons by Dr. Laird or the Tuberculosis Nurse; 710 to the homes of insured and 1071 to those of non-insured.

The work is steadily growing and in order to give the most recent figures, even though they go beyond the 31st December, it may be added that 333 persons (120 insured, 213 non-insured) have been examined and reported upon, up to March 31st, 1914, and at the end of March 223 persons were receiving treatment at the office ; these included 164 notified cases (53 insured and 111 non-insured) and 59 observation and suspected cases (10 insured and 49 non-insured).

The Tuberculosis Staff exercise supervision over all notified consumptives : the Tuberculosis Officer recommends home, hospital, or sanatorium treatment, as is requisite for those cases examined by him. After discharge from an institution, the patients continue under his care. A most important part of anti-tuberculosis work is the detection of early cases, and for this purpose 56 contacts of notified cases were examined ; one was a definite case of phthisis, and 22 others are being kept under observation as " suspected " cases.

Cases of non-pulmonary as well as of pulmonary tuberculosis come under the supervision of the Tuberculosis Officer. 210 houses were disinfected ; infected rooms are disinfected on the death or removal of any patient.

It is early yet to gauge accurately the results of the establishment of a dispensary system ; a word of warning must be issued to the effect that prevention rather than cure is necessarily the watchword of the Department and it must not be expected that the death-rate from tuberculosis will miraculously disappear within two or three years. It is well-known that there is no one therapeutic agent which can be relied upon in each and every case of phthisis, and the ultimate outlook for all advanced cases is black ; though in such cases, life is often prolonged as the result of treatment and distressing symptoms can be relieved ; for early and intermediate cases, the natural remedies of fresh air, nourishing food, and regulated rest and labour, are the mainstays of curative measures, aided though they may be in certain cases by medicinal or vaccine treatment.

Treatment by a dispensary system must be provided as a means to an end, for treatment must be given if a constant influence is to be exercised over the patient, who receives not only the prescription for the bottle of emulsion, cough mixture, or whatever may be necessary for his ease, but

also what from the point of view of the community is much more important, advice as to the need for fresh air for himself *and family*, both at home and at his work, as to the necessity of regulating his food, rest and work, to accord with an hygienic mode of life ; and at the same time, he is " lectured " as to the infectious nature of his disease, the need for using the sputum flask with which he is presented and the method of disposal of his sputum. All this would be valuable if nothing further were done, but more is done: the home is visited, the windows are thrown open, if they have not been opened before (a very frequent occurrence) ; arrangements are made, if possible, for the patient to sleep alone, contacts are examined, early cases are sent to a sanatorium, advanced cases to a hospital for isolation and " education " ; if hard times are upon them, as is unfortunately too often the case, extra nourishment is provided in the way of milk and eggs if they are insured ; if not, they are directed to charitable agencies or the Poor Law Officers.

The numbers given above reflect only a portion of the work which is being done ; the real value, the influence on the lives and homes of the people, cannot be set out statistically, but those who come daily into contact with the people realise how much they appreciate what is being done for them. Perhaps, in few other departments of municipal work is there less of the official attitude and more of the touch of human kindness and sympathy than in anti-tuberculosis work. The friendly talk at the Tuberculosis Office or at home achieves infinitely more than the official visit, though the authority which lies behind an officer of the Local Authority can always be used in those uncommon cases where the other method is unavailing.

Hospital Accommodation.—A temporarily disused typhoid pavilion in the Linaere Hospital continued to be used during 1913. Thirty-seven patients were treated there for the Bootle Insurance Committee, and 7 for the Seamen's National Insurance Society. A re-constructed building in which 16 patients can be treated at the same time, will be ready early in 1914. These beds will mostly be used for advanced cases, though intermediate and observation cases can be admitted. Both insured and non-insured patients will be treated.

Sanatorium Accommodation.—Arrangements have now been completed for cases of smallpox to be admitted to a Liverpool City Hospital. This

was done in order that the Corporation Hospital at Maghull might be made available for the treatment of early cases of pulmonary tuberculosis. Five acres of land have been enclosed and several additional buildings provided. The Institution is about to be opened as a Sanatorium for twenty patients.

Bootle Insurance Committee.—During the year institutional treatment was provided for 55 insured persons. Thirty-seven were treated in the Linacre Hospital, one at the Liverpool Chest Hospital, one at the Royal Hospital, Bootle, and sixteen at the Liverpool Sanatorium, Delamere Forest. Insured persons will be sent to the Maghull Sanatorium when that is available.

Financial.—The provision of arrangements for attacking tuberculosis requires the expenditure of a considerable sum, but the amount which will fall upon the local rates is considerably reduced by the fact that grants of four-fifths the cost of equipping the premises, 80 Irlam Road, and three-fifths the cost of providing hospital and sanatorium accommodation will be made from the Imperial Exchequer. Also, the Insurance Committee pay for the cost of treating insured persons, and one-half the cost of treating non-insured is met by a Parliamentary Grant. Tuberculosis demands a toll in lives or in money : the life toll in Bootle has for many years been over 100 lives every year : lives often of men in their prime, with others dependent upon their earnings. Much money is now being spent to meet the toll in the other way ; a way, planned by a Committee representing all shades of opinion, who considered the proposed system to be the most efficient and practical method of dealing with the problem. The success of the campaign will mean that the money will be repaid many times over in the value of the lives which will ultimately be saved.

NON-PULMONARY TUBERCULOSIS.

The problem of pulmonary tuberculosis, though it certainly is the most important, does not, unfortunately, deal with the whole tuberculosis question ; for, in Bootle, in 1913, 30 deaths, mostly of children, occurred from non-pulmonary tuberculosis. Since the disease became compulsorily notifiable on February 1st, 1913, eighty cases have come under observation : they comprise 41 males and 39 females ; their ages are set out in the table on page 49. The disease affected the glands in the neck in 34 cases, the hip joint in 18, the spinal column in 7, the knee joint in 2, other bones or

joints in 4, the meninges in 3, abdominal structures in 6, and the skin in 5. The disease was generalised in one notified case.

Though no definite provision has been made in the tuberculosis scheme for the treatment of non-pulmonary cases of tuberculosis, the matter has not been overlooked, and it is hoped that the Council will see their way to provide beds in the Borough Hospital and a Children's Sanatorium for such cases. The new Leasowe Sanatorium or the Royal Liverpool Country Hospital for Children, Heswall, are both within easy distance of Bootle; the net cost to the rates per annum for each bed would be about £20. An open-air school for delicate children would prevent many declining so much that they require institutional treatment. The Bootle Insurance Committee send cases of non-pulmonary tuberculosis in insured persons to the Borough Hospital; a certain payment per week per patient is made.

VENEREAL DISEASES.

The best mode of control of these diseases is now being investigated by a Royal Commission, and Local Authorities will most probably have additional duties placed upon them as a result of their recommendations. Outside medical circles, the extent of these corroding cankers which live upon our social system is scarcely known; gonorrhœa helps to fill the blind asylums with children infected at birth with ophthalmia; it provides women's hospitals with a considerable proportion of their patients, and causes years of pain and suffering to those women who have been infected with the disease. But, though gonorrhœa in its various manifestations is potent for evil, yet it is not so terrible a disease as is syphilis, the effects of which dog the patient for dozens of years, cause his children to be born dead, or if they survive, to be tainted with disease and often struck down by blindness, deafness or mental weakness during childhood or adolescence; while not infrequently, years after the infection, the unhappy man loses his reason and dies in an asylum. About one-fifth of the patients who die in the Lancashire Asylums have their deaths certified to be due to general paralysis, which is now known to be almost always, if not absolutely always, a result of syphilis.

It is important that ample facilities should exist for the early diagnosis of these conditions: secretions will be examined for gonococci for any practitioner and the result reported to him. It is very desirable that the

Local Authority should arrange for the examination of specimens from suspected cases of syphilis.

ALCOHOLISM AND CIRRHOSIS OF THE LIVER.

During 1913, two deaths were certified to be due to alcoholism, and 9 to cirrhosis of the liver,

CANCER.

The number of deaths from cancer was 65, or 0·90 per 1,000 of the population. The rate in 1913 was 1·06 and in 1911 1·04.

In Portsmouth, the Health Committee regularly issue an advertisement drawing attention to the early signs and symptoms of cancer in its commoner situations : it is hoped that patients will thereby be induced to apply for treatment earlier.

OTHER CAUSES OF DEATH.

Pneumonia caused 157 deaths, or 2·17 per 1,000 of the population. The corresponding rate in 1912 was 1·86 and in 1911 2·15.

Bronchitis was responsible for 110 deaths, or 1·52 per 1,000, compared with 1·33 in the preceding year and 1·56 in 1911.

Inquests.—62 inquests on residents were held during the year.

Burns and Scalds.—During the year the average number of deaths due to burns and scalds occurred.

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	Total										
Deaths, from burns and scalds, of children un- der the age of 8 yrs.	5	...	7	...	3	...	14	...	6	...	9	...	1	...	7	...	10	...	7	...	69

One hundred fireguards were given away by the Bootle Health Society during the year.

Fabrics (Misdescription) Act, 1913.—This Act which requires that all cloth sold as “ non-inflammable ” shall comply with certain prescribed tests of non-inflammability, came into force on the 1st January, 1914. The Lady Sanitary Inspectors have been appointed to obtain and examine samples. A result of the Act has been that shopkeepers now refuse to sell flannelette as “ non-inflammable.” The intending purchaser is informed “ We don’t stock the *non-inflammable* flannelette, but —— is very reliable and can be recommended.”

Other Diseases.—Of the 268 deaths certified to be due to “other defined diseases,” 52 were caused by cerebral hæmorrhage, 30 by arteriosclerosis, and 22 by senile decay. Uncertified deaths reached the large number of 47, which is 3·7 of the total.

THE MIDWIVES ACT, 1902.

The number of midwives on the local roll is 22 ; this is one less than during 1912. Eight others, who reside outside the district, gave notice of their intention to practise within the Borough. Two local midwives have not passed any qualifying examination, but each has been recognised by the Central Midwives’ Board in consequence of having been in practice as a midwife for at least a year on July 31st, 1902 ; all the others have passed an examination in midwifery.

In compliance with Section 8 of the Act, the Central Midwives’ Board have been supplied with the following information :—

Change of name	Nil.
Change of address	3
Notice of intention to cease practice	Nil.
Death of Midwife	Nil.

The following numbers of notifications have been received :—

	1913.	1912.	1911
Records of sending for medical help ..	97	120	92
Still births	48	41	46
Death of child before attendance of a medical practitioner	2	1	1
Number of births attended by the midwives who reside in Bootle	1,474	1,377	1,396
Number of births attended by midwives who reside outside the district ..	321	287	287
Total number of births attended by midwives	1,795	1,664	1,683

Midwives attended **84·1%** of the children born in the Borough compared with 79·5% in 1912, 80% in 1911, and 82% in 1910.

	1913.	1912.	1911.
Largest number of births attended by one midwife	238	246	206
Percentage of still-births to total births attended by midwives	2·6	2·4	2·7

The following particulars relate to the period of pregnancy at which the still births took place :—

	1913.	1912.	1911
At 5 months	—	1	1
„ 6 „	3	3	6
„ 7 „	7	9	8
„ 8 „	11	11	7
„ 9 „	27	17	24
	—	—	—
Total	48	41	46

The 97 cases in which medical help was obtained are 5·4% of the total number of births attended by midwives. The corresponding figure in 1912 was 7·2 and in 1911 5·4.

The following is a list of the complications for which medical assistance was required :—

Labour—

	1913.	1912
Unusual presentations	14	14
Post-partum haemorrhage	3	6
Retained placenta	2	9
Adherent placenta	4	3
Obstructed labour, uterine inertia, or “ requiring instrumental assistance ”	38	53
Ruptured perinæum	15	10
Other complications	7	6

Puerperium—

Rise of temperature above 100·4°F. ..	3	10
---------------------------------------	----------	----

Newly-born child—

Spina bifida	1	—
Dangerous feebleness and prematurity ..	9	7
Inflammation of eyes or eyelids	1	2
	97	120

In addition to the case included above, midwives notified 8 cases of ophthalmia neonatorum.

Three confinements were attended by uncertified women. There were four of these so-called "handy-women" in the town, but during 1913 only two attended cases: one assisting at two births and the other at one. This compares with 17 cases attended by "handy-women" in 1912. I understand that the reason why the number has dropped is because, owing to the receipt of Maternity Benefit, parents can now afford to pay a qualified midwife.

During the year every midwife practising in Bootle was visited by Miss Stott at least four times, and her appliances and records examined. These are kept satisfactorily by the great majority, but in two, owing to lack of education, the temperature and pulse records are not recorded accurately.

PUERPERAL FEVER.

During the year three cases of puerperal fever were notified. This gives a notification-rate of 0·04 per 1,000 of the population. The corresponding rate for England and Wales was 0·05. Two patients were removed to Liverpool Hospitals, one recovered and one died; the other was treated at home and died. Five deaths occurred from "accidents and diseases of pregnancy." The seven deaths were at the rate of one for every 308 births. The death-rate from puerperal fever was 0·92 per 1,000 births and for "accidents and diseases of pregnancy," 2·3.

OPHTHALMIA OF THE NEWLY-BORN.

Nine cases of this disease were notified by midwives to the Health Department during the year,—in one the notification was sent in as "a record of sending for medical help," in the other 8 special post cards supplied by the Health Department were used. Four of the cases were treated throughout by private practitioners; one was treated as an out-patient at St. Paul's Eye Hospital, Liverpool; and three as out-patients at the Bootle Royal Hospital. One case, which was very slight, recovered without medical attention: another, which was not notified by the midwife, was admitted with the mother to St. Paul's Eye Hospital, Liverpool. The midwife was reprimanded for her neglect. In no case, is vision likely to be seriously impaired.

This disease became compulsorily notifiable on the 1st April, 1914. A Bootle lady, who has had great experience in the treatment of the disease, has very kindly offered to visit all cases in which skilled nursing is required, give what assistance she can, and supervise, under the direction of the practitioner in charge of the case, the cleansing of the eyes. Her services, which are voluntary, are much appreciated.

HOUSING.

The following are the returns of the 1911 census concerning housing in Bootle :—

BUILDINGS USED AS DWELLINGS.

	1901 Total	Total Cols. 4-11	Ordinary dwelling house	Blocks of Flats	Shops	Hotels, Inns and Public Houses	Offices, Ware- houses, Work- shops and Factories	Institutions	Others	Vessels, Sheds, Vagrants, etc	Separate Flats (included in Column 5)	Buildings not used as Dwellings		No.
1	2	3	4	5	6	7	8	9	10	11	12	13		14
Number inhabited	10,420	12,402	11,431	38	828	53	31	8	13	—	53	Places of Worship Government and Municipal Buildings		31
Separate occupiers	11,625	13,873	12,747	56	860	53	33	8	13	103	56	Shops		8
Population ..	60,235	69,876	63,396	294	4,191	368	159	381	60	1,027	294	Offices		298
Uninhabited ..	623	1,011	890	2	116	—	3	—	—	—	3	Warehouses, Work- shops and Factories Theatres and other places of amusement		73
Being built ..	179	3	2	—	—	—	1	—	—	—	—			321
														4

It will be seen that the number of separate occupiers exceeds the number of inhabited houses by 1,471, but this must not be taken as the number of sub-let houses, as a "separate occupier" may be a lodger occupying one or two rooms.

The average number of persons per inhabited house was 5·63 compared with 5·78 in 1901. Throughout England and Wales the 1911 figure was 5·05, that for the County Boroughs being 4·99.

The next table is a summary of that portion of Table III in Volume VIII of the Census Returns which refers to Bootle.

LANCASHIRE.—BOOTLE C.B.

	1901	1911		
Total Population ..	60,235	69,876	Tenements with more	
Total Families or Separate Occupiers,			than two occupants	
			per room :—	
"Private" or other	11,625	13,873	Number 879. Popula-	
Population in "Private Families:" ..	—	68,193	tion all ages	6,283
Number of Private Families ..	—	13,737	Population under 10 years	
			of age.. ..	2,507
			Percentage of Population in	
			"Private Families" living	
			more than two in a room	9·2

No. of rooms in each tenement occupied by one private family	Number of persons in Private Families (or Tenements)															Total number of private families	Population
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 & upwards		
1	136	162	95	56	22	2	2	—	1	—	—	—	—	—	—	476	1,114
2	92	237	206	160	117	62	33	8	9	—	—	—	—	—	—	924	3,157
3	24	181	259	269	209	211	136	84	28	14	3	1	—	—	—	1,419	6,611
4	37	293	355	352	344	273	157	133	53	25	15	4	2	—	—	2,043	9,583
5	61	450	714	822	764	680	544	362	262	129	56	27	6	5	3	4,885	25,776
6	25	190	270	343	307	275	184	132	86	43	32	16	7	1	—	1,911	9,969
7	8	63	114	131	135	115	106	69	48	35	26	10	8	3	2	873	5,024
8	3	41	79	94	93	90	66	66	44	19	18	8	5	3	4	633	3,740
9	1	15	30	41	44	36	26	22	16	7	3	3	1	—	—	245	1,375
10 and upwards	—	19	40	61	45	52	50	30	13	7	7	2	1	1	—	328	1,844
Totals	387	1651	2162	2329	2080	1796	1304	906	560	279	160	71	30	13	9	13,737	68,193

The table is to be read thus : there were 476 families containing a total of 1,114 persons living each in one room ; 924 families containing 3,157 persons living each in two rooms ; 1,419 families (6,611 persons) in three rooms each, etc. Of the 476 families living each in one room, 136 contained one person in each family ; 162 two persons in each ; 95, 3 persons; 56, 4 persons, etc.

A tenement is defined as “ a place in which any person entitled to receive a schedule usually lives.” The persons entitled to receive a schedule included “ every head of a family occupying the whole or part of a house or flat ” ; “ every separate lodger occupying a room or rooms in a house or flat (where two or more lodgers shared a room or rooms they were treated for census purposes as a single family),” etc.

The following figures show the percentage of tenements of each size

PROPORTION, PER 1,000 TENEMENTS, OF TENEMENTS CONSISTING OF

	1 room	2 rooms	3 rooms	4 rooms	5 rooms	6 rooms	7 rooms	8 rooms	9 rooms	10 rooms or more
England and										
Wales ..	32	83	139	250	207	137	59	35	20	38
Total of County										
Boroughs	27	79	144	265	214	151	53	29	15	23
Bootle ..	35	67	103	149	355	139	64	46	18	24

The proportion per 1,000 of the population, enumerated as living in tenements of each size are :—

	1 room	2 rooms	3 rooms	4 rooms	5 rooms	6 rooms	7 rooms	8 rooms	9 rooms	10 rooms or more
England and										
Wales ..	14	61	148	247	224	148	64	40	23	51
Total of County										
Boroughs	12	58	135	262	233	163	58	32	17	30
Bootle ..	16	46	97	141	378	146	74	55	20	27

Bootle is one of the towns containing the highest proportion of families of over six persons each and the lowest proportion of families of less than four persons each.

The next table gives the average number of occupants per room in tenements consisting of :—

	1 room	2 rooms	3 rooms	4 rooms	5 rooms	6 rooms	7 rooms	8 rooms	9 rooms	1 to 9 rooms
England and Wales	..1·90	..1·59	..1·33	..1·08	..0·95	..0·78	..0·68	..0·61	..0·56	..0·95
Total of County										
Boroughs	2·00	..1·61	..1·38	..1·09	..0·96	..0·79	..0·69	..0·62	..0·57	..0·98
Bootle	..2·34	..1·71	..1·55	..1·17	..1·06	..0·87	..0·82	..0·74	..0·62	..1·04

The following table shows the room population, that is, 64 per 1,000 of the population of Bootle live in tenements where the number of occupants is less than one person for every two rooms ; 204 per 1,000 where there is less than one person in each room, but more than one in every two rooms ; 142 per 1,000 in houses where there is one person to each room. Two persons per room is usually reckoned as the limit above which overerowding is said to exist : 92 per 1,000 in Bootle live in overerowded houses, using this definition as the basis.

PROPORTION PER 1,000 PERSONS ENUMERATED IN TENEMENTS HAVING
THE FOLLOWING NUMBERS OF OCCUPANTS PER ROOM :—

	Up to and including ½	Over ½ but less than 1	One person per room.	Over 1 but not over 1½	Over 1½ but not over 2	Over 2 but not over 2½	Over 2½ but not over 3	Over 3 but less than 4	4 and over	Proportion per 1,000 persons in Tenements of 10 rooms or more
England and Wales ..	97	..220	..150	..232	..159	..48	..28	.. 8	.. 7	..51
Total of County										
Boroughs	90	..216	..155	..245	..170	..51	..28	.. 7	.. 8	..30
Bootle ..	64	..204	..142	..270	..201	..49	..29	.. 6	.. 8	..27

The number of empty houses has markedly decreased since the census, partly owing to the smaller number of dwelling-houses lately erected, which has by no means provided for the natural increase in the population and partly owing to immigration into the town on a large scale, the result of trade being good and to large works having been recently established. A special enumeration of empty houses at a rental of 10/- weekly or less was made in March, 1914, and there were only 55 ; there were 18 in

Knowsley Ward, 14 in Linaere, 9 in Mersey, 6 in Stanley, 5 in Derby, and 3 in Orrell. In 22 the rental was 6/- or less weekly ; in 20, between 6/- and 8/-, and in 13, more than 8/- but less than 10/-.

The table gives the number of dwelling-houses erected in each ward during the past ten years :—

											Whole Borough												
											Derby	Stanley	Mersey	Knowsley	Linaere	Orrell							
April 1904—April 1905	..	135	..	76	..	—	..	1	..	143	..	—	..	355									
„ 1905.. „ 1906	..	278	..	52	..	—	..	—	..	214	..	—	..	544									
„ 1906.. „ 1907	..	190	..	25	..	—	..	—	..	110	..	*26	..	351									
„ 1907— „ 1908	..	73	..	64	..	1	..	—	..	51	..	11	..	200									
„ 1908—Jan. 1909	..	46	..	52	..	—	..	—	..	14	..	21	..	133									
Jan. 1909— „ 1910	..	44	..	44	..	—	..	1	..	10	..	1	..	100									
„ 1910— „ 1911	..	7	..	15	..	—	..	—	..	6	..	11	..	39									
„ 1911— „ 1912	..	19	..	—	..	—	..	—	..	1	..	—	..	20									
„ 1912— „ 1913	..	17	..	1	..	—	..	—	..	19	..	8	..	45									
„ 1913— „ 1914	..	—	..	—	..	—	..	—	..	—	..	13	..	13									
											809	..	329	..	1	..	2	..	568	..	91	..	1800

*Included in the Borough in 1906.

Seventy-six dwelling-houses have been erected since the census.

The *density of population* in each ward is shown by the number of persons per acre :—

Ward				Area (excluding dock estate)	Total Area	Number of persons per acre (excluding dock estate)
Linaere	..	..	..	203	272	77·6
Knowsley	..	..	..	176	306	69·9
Mersey	..	..	..	174	312	69·2
Stanley	..	..	..	235	235	48·3
Derby	..	..	..	451	451	32·0
Orrell	..	..	..	371	371	10·5
				1610	1,947	44·8

The Public Parks and Recreation Grounds are situated : in Linaere Ward, the North Recreation Ground of 16 aeres, and the Peel Road

Children's Playground ; in Mersey Ward, the Falkner Crescent Children's Playground and St. John's Garden ; in Stanley Ward, the South Recreation Ground of 16 acres, Stanley Gardens of one acre, and the Morton Garden ; and in Derby Ward, the Derby Park of 22 acres.

Sub-letting.—The amount of sub-letting is not diminishing. In July 1912, of 754 houses in the Bootle Hall and Webster Estate District of Knowsley Ward, 75 houses were occupied by two families each and two by three families each ; in August 1913, the corresponding figures were 83 and 8.

It is probable that there are about 800 sub-let houses in the town, but at the beginning of the year only 115 and at the end only 137 houses were upon the sub-let house register ; 67 were added during 1913, and 45 removed. It is very difficult to keep the register up to date ; it often happens that other tenants are in occupation before the formalities of registration are completed ; then the whole process has to be started again. The Lady Inspectors paid 1,235 visits to sub-let houses, and the Male Inspectors 739 day and 286 night inspections. In 68 cases, overcrowding was discovered, 26 being at night inspections ; with one exception the overcrowding was remedied as the result of a notice received from the Health Department. In the other case, a summons was issued, but as the overcrowding was remedied before the case was heard, it was withdrawn on payment of costs. Cases of overcrowding were discovered and dealt with in sub-let houses whether on the Register or not.

Common Lodging Houses.—There are six Common Lodging Houses in the town : they are registered to accommodate 302 lodgers. During the year they were never quite full. It was necessary to issue summonses in respect of one lodging house for lack of cleanliness. The keeper was fined 15/- and 21/- costs.

With a single exception, there are no back-to-back houses in the Borough. In one small district the arrangement of the streets is bad. Practically all the houses for the working classes are built in long rows and contain just the amount of yard space required by the bye-laws in operation at the time of their erection. All new buildings are erected under the supervision of the Borough Engineer. There are no underground sleeping places as defined by Section 17 (7) of the Housing Town Planning etc., Act, 1909.

STATEMENT OF WORK DONE DURING 1913, UNDER HOUSING
(INSPECTION OF DISTRICT) REGULATIONS, 1910.

Number of Houses inspected under and for the purpose of Section 17 of the Act of 1909.	Number of houses considered to be in a state so dangerous and injurious to health as to be unfit for human habitation.	Number of representations made to the local authority with a view to the making of closing orders.	Number of closing orders made.	Number of houses (respecting which closing orders had been made) which were demolished without orders for demolition being made.	Number of houses in which defects were remedied without the making of closing orders.	Number of houses which, after the making of closing orders, were put into a fit state for human habitation.
(1)	(2)	(3)	(4)	(5)	(6)	(7)
348	Nil	Nil	Nil	*4	265	Nil

Number of houses declared not reasonably fit for human habitation (Sec. 15 Housing, etc., Act, 1909.)	Number of houses repaired after notices under Sec. 15 of Housing, etc., Act, 1909.	Number of Notices under Sec. 15 not yet complied with.	Number of houses ordered to be repaired otherwise than under Sec. 15 of the Housing, etc., Act, 1909.	Number of houses dealt with in column 11 which were repaired.	Number of houses dealt with in column 11 and not yet repaired.	Number of houses in which no repairs were required.
(8)	(9)	(10)	(11)	(12)	(13)	(14)
Nil	‡29	Nil	344	‡236	150	4

*Closing orders were made in respect of these houses during 1912.

‡Notices were served in respect of these houses during 1912.

†These include 42 houses inspected during 1912.

As will be seen from the foregoing table, 348 premises were inspected in accordance with the provisions of the Housing Regulations. They included 341 occupied, and 7 unoccupied, houses. In 1912, 299, and in 1911, 133 houses were inspected. Further proceedings relating to 71 houses which were inspected during 1912, were taken in 1913, hence the total number concerning which action was taken during the year was 419. There are 10,624 houses in Bootle under a rental of £26 per annum, of

which it is estimated that about 8,000 have been let since December, 1909, and are hence let with the implied condition, " that the house shall be kept during the holding reasonably fit for human habitation."

The town has now been divided into two districts, and the houses in each district are being inspected systematically, but at the present rate of progression, it will be many years before all the houses have been examined and the necessary records made. Beresford Street which contained the worst houses in the town, has now disappeared as the houses have been demolished and the street closed. The four houses demolished during the year were in this street. Houses in the following streets were dealt with during 1913, viz.: Flint Street, Denbigh Street, Holywell Street, Akenside Street, Pleasant View, Pleasant Grove, Johnstone Street, Matthew Street, Emley Street, Camden Street and Howe Street. In four houses no defects were discovered ; the remaining 344, with a few exceptions, were in fair condition. The defects commonly found were the following :—

Defective sash cords,

„ window frames,

„ W.C. putty joints,

„ W.C. and ashpit walls,

„ yard surfaces,

„ house roofs,

Missing baluster rails, and

Lack of ventilation in back bedrooms which were without chimneys.

In view of the above, it was thought unnecessary to issue a formal notice under Sec. 15 of Housing, Town Planning, Etc., Act, for each house in which defects were found, and throughout the year the simpler expedient was adopted of sending a letter to the owner informing him of the defects found, and requesting him to repair them. In every case property owners have performed the necessary work, or are proceeding to do so, and in no case since the new procedure was adopted has it been necessary to send a formal notice with a view to bringing pressure to bear upon the owner. The 150 houses in which the defects had not been rectified at the end of the year are now receiving attention.

FOOD INSPECTION.

Meat and Fish.—The butchers' and fish shops throughout the town were regularly visited during the year. During the year 590 lbs. of unsound food were destroyed in small quantities at a time ; most of it was destroyed at the request of the owners. No tuberculous meat was discovered in the Borough.

There are two slaughter-houses in the town, but they were not much used during 1913 owing to the outbreak of foot and mouth disease, causing prohibition of the movement of cattle throughout the greater part of the year. Nearly all the meat sold in Bootle comes from the Liverpool or Birkenhead public slaughter houses, or is imported in a frozen condition from abroad.

During 1913, 134 visits were paid to the slaughter houses.

A food factory certified for the preparation of food for export to the United States of America and the Philippine Islands is kept under observation.

Fruit and Vegetables.—Greengrocers' shops and hawkers' carts were frequently inspected throughout the year, especially during the summer. No unsound fruit was found in any of the hawkers' carts, though many inspections were made, not only during the day but also late at night. In July, 1 ton, 13 cwt., of strawberries, which had been refused by the consignees, were destroyed at the request of a Railway Company. Fifteen cwt. of unsound potatoes were seized in a chip potato shop ; they were destroyed at the expense of the owner. There were extenuating circumstances, as a result of which no further action was taken.

Milk.—About 520 dairy cows are kept in the 32 shippons in the Borough. The inspectors paid 859 visits to the shippons and dairies, and 987 to the 36 registered milk shops. The cows are periodically examined by a veterinary surgeon, Mr. James Sumner, M.R.C.V.S., who has made the following report on the work done by him during the year 1913 :—

“ After making my usual quarterly inspections of the cows in the shippons of the Borough, I am very pleased to be able to report that I found a continued high standard of cows ; also, an improvement in the condition of the udders.

I think that the Tuberculosis Order 1913 is in a great measure responsible for some of the improvement, inasmuch as it has caused more notice to be taken of the udders, and prohibits any cow having a palpable chronic enlargement or induration of the udder being exposed in any public sale or market. I am pleased to state we have had only one case under the Order; the cow was slaughtered on suspicion of being affected with tuberculosis with emaciation; on post-mortem examination, the suspicion was confirmed.

The procedure under the Order is greatly preferable to the former one when animals with suspicious udders were taken to the cattle markets and distributed to other districts without any record being kept of their destination.

The shippens are kept as clean as is practicable, though in some there might be a little more attention devoted to the removal from the quarters and sides of the cows of the accumulation of faeces, which I am afraid cannot be quite prevented from getting into the pail. It is desirable that some means for washing the milkers' hand be available in every shippen. A considerable amount of care and attention seems to be taken in having all utensils clean and the places tidy and neat."

The tuberculous cow referred to in the Veterinary Inspector's report was found to be suffering from advanced tuberculosis within the meaning of the Tuberculosis Order, and 30 shillings compensation was paid; 24/- was obtained for the hide, hence the net compensation was 6/- only.

Bacteriological Examination of Food.—Four meat pies, two samples of sausages, three of brawn, and one of corned beef were examined bacteriologically. The *Bacillus Coli Communis* was found in one gramme of each of two of the meat pies and of both samples of sausages. The *Bacillus Enteritidis Sporogenes* and food poisoning organisms were absent from all.

Seven samples of railway milk were examined by Professor Beattie. The Colon *Bacillus* was present in 0.01 c.c. of the milk, but absent in 0.001 c.c. in three instances; in the other four, it was isolated from 0.001 c.c. but not from 0.0001. All the samples were non-tubercular.

SALE OF FOOD AND DRUGS ACTS.

The Public Analyst is Mr. W. H. Roberts, M.Sc. F.I.C. The table shows the number of samples taken and the number reported to be adulterated.

	Total Number of Samples Analysed	Number reported to be Adulter- ated or not up to standard	Number of Prosecu- tions	Number of Convict- ions	Remarks
Milk... ..	100	22	9	7	In 2 instances the summonses could not be served as the defendant has disappeared and up to the present has not been traced. The remaining 13 cases were not proceeded with as the deficiency in cream was so small as not to warrant prosecution.
Butter	52	3	1	1	Two of these were informal samples.
Cheese	13	—	—	—	—
Drugs	10	4	1	1	Three of these were informal samples.
Cream	3	—	—	—	—
Demerara Sugar	3	2	—	—	These were informal samples.
Potted Shrimps	3	3	—	—	Two of these were informal samples. In the third sample the adulteration was so trifling as not to warrant prosecution.
Beer... ..	3	—	—	—	—
Whiskey	2	—	—	—	—
Treacle	2	2	—	—	These were informal samples
Jam	2	1	—	—	This was an informal sample.
Rice	2	1	—	—	This was an informal sample.
Lard	2	—	—	—	—
Margarine	2	—	—	—	—
Cocoa	2	—	—	—	—
Pepper	2	—	—	—	—
		38	11	9	

The percentage of samples reported against was 18.7% and in 5.4% the vendors were prosecuted. With one exception, all the samples of milk were obtained in accordance with the procedure prescribed by the Acts, but 87 of the other samples were taken informally. This is necessary because the amount required for analysis, after sub-division of the sample into three parts, is often larger than that usually purchased by the ordinary customer of a small shop. Small quantities purchased by an agent are

sent for analysis and thus a knowledge is obtained of any adulteration which is being practised.

The results of the analysis of informal samples are telephoned by the Public Analyst as soon as they are available, and a formal sample is immediately purchased if the informal one was adulterated. Twenty-two per cent of the samples of milk were not up to the standard prescribed by the regulations of the Board of Agriculture. These include 9% in which the deviation from the standard was marked. The corresponding percentages in 1912 were 24·5 and 9·8. Throughout England and Wales in 1912, the percentage of samples of milk found adulterated or not up to standard was 10·9, which is very much lower than the Bootle figure of 24·5.

In ten cases of minor deficiencies of cream and three in which the non-fatty solids were slightly deficient, the vendors were warned and advised to have their milk privately analysed at regular intervals, in order that the influence of change of food, hours of milking, etc., might be determined, and unsatisfactory cows disposed of. This will be done at the County Farm, Hutton, near Preston, for a fee of 6*d.* per sample.

The two worst cases of milk adulteration were the addition of 25% of water in each sample. The vendor from whom both these samples were purchased disappeared before the summons could be served, and he has not yet been traced. In five cases, the analyst certified that the milk had been deprived of 27, 16, 12, 10 and 9 per cent of its cream respectively. It appeared from the analyst's report on two other samples that they contained 8% and 6% of added water. The amount of fines and costs in the seven cases in which summonses were served was £11 2*s.* 6*d.* The analyst's fee was allowed in every case. Ten samples of milk were taken at railway stations in the town and were all certified to be genuine. A large quantity of milk formerly consigned to Balliol Road Station is now delivered at Walton Station, in the City of Liverpool.

On the 1st October, a servant of a cowkeeper in the Borough was fined 2/6 and 7/- costs for impeding Inspector McCulloch, by removing from the dairy a can containing milk from which the Inspector had asked for a pint of milk.

The Public Analyst has kindly supplied me with particulars of the result of the analysis of every sample of milk submitted to him from

Bootle : including the samples returned as " not genuine," the average amount of cream was 3·48% and of non-fatty solids 8·79%. The limits fixed by the Board of Agriculture are 3% cream and 8·5% non-fatty solids.

Three samples of butter were reported against. Two were informally purchased and contained 60 and 67 per cent of margarine respectively ; formal samples were subsequently purchased from the same vendors : one proved to be genuine ; the other contained 55% of margarine and the vendor was fined twenty shillings and one guinea costs. A further case against the same defendant for exposing margarine for sale without a proper label was withdrawn on payment of costs (7/-).

The proprietors of five small shops were cautioned for exposing margarine for sale which was not properly labelled.

In four instances, drugs were found to be adulterated : three of these were informal samples : the remaining one was certified to be deficient to the extent of 25% of the Potassium Iodide and 33% of the Spiritus Ammoniaë Aromaticus prescribed. The vendor was fined £5 and costs (18/6).

In dealing with the last mentioned cases it was found that informal samples of cod liver oil emulsion purchased from one firm of chemists were short in measure to the extent of, approximately, 31%.

The matter was referred to the Chief Inspector of Weights and Measures with the result that a further sample was found to be deficient in measure to the extent of 37%, and the vendors were fined £5 and 7/- costs.

Two informal samples of Demerara Sugar were found to be adulterated with Cane or Beet Sugar, and in view of the fact that proceedings taken under similar conditions in another town were unsuccessful, it was thought advisable not to proceed further.

Three samples of potted shrimps were reported to contain a preservative (Boric Acid). Two of these were purchased informally, and in the third case the preservative was found in such a small quantity that no proceedings were taken, but the manufacturer was communicated with.

In two cases treacle was found to contain one-eighth and one-quarter of a grain of copper per pound. This was pointed out to the vendors.

One informal sample of jam was found to contain 2% of apple pulp. The manufacturers were written to.

A sample of rice purchased informally contained 0·2% of talc and the vendor was informed of this.

PUBLIC HEALTH (MILK AND CREAM) REGULATIONS, 1912.

All samples of milk taken during the year were examined for preservatives with negative result. Three samples of cream were purchased; one contained 0·35% of Borates (calculated as Boracic Acid), and was labelled. Another contained 0·27% of Borates, and although the lettering of the label was correct, the label itself was smaller than that prescribed by the regulations. The remaining sample was certified to contain no preservative.

The following gives in tabular form the information required by the Local Government Board :—

REPORT OF ADMINISTRATION IN CONNECTION WITH THE PUBLIC HEALTH
(MILK AND CREAM REGULATIONS), 1913.

1. *Milk and Cream not sold as Preserved Cream.*

	(a) Number of Samples examined for the presence of a preservative.					(b) Number in which a preservative was reported to be present.				
Milk	..	..	..	..	100	..	..	..	..	Nil.
Cream	..	..	..	..	1	..	..	..	..	Nil.

Nature of preservative in each case in column (b) and action taken under the Regulations in regard to it —

2. *Cream sold as Preserved Cream.*

(a) Instances in which samples have been submitted for analysis to ascertain if the statements on the label as to preservatives were correct.

(1) Correct statements made	..	..	..	..	2
(2) Statements incorrect	..	..	..	..	Nil.
Total	..	..	..	..	2

(b) Determinations made of milk fat in cream sold as preserved cream.

(1) Above 35 per cent	..	..	..	..	2
(2) Below 35 per cent	..	..	..	..	Nil.
Total	..	..	..	..	2

(c) Instances where (apart from analysis) the requirements as to labelling or declaration of preserved cream in Article V (1) and the proviso in Article V (2) of the Regulations have not been observed 1

(d) Particulars of each case in which the Regulations have not been complied with, and action taken.. .. See No. 4

3. *Thickening Substances.*

Any evidence of their addition to cream or to preserved cream	..	..	..	..	..	..	..	..	No.
Action taken where found	..	..	..	..	..	..	..	..	—

4. *Other Observations, if any.*

The declaratory label, in one case, was slightly smaller than is required by paragraph 3 of the Schedule to the Regulations (though the printing was the correct size). The Manufacturers were notified, and they at once had new labels printed to meet the requirements of the Regulations.

WATER ANALYSES.

TABLE SHEWING MONTHLY ANALYSES OF WATER SUPPLIED BY THE LIVERPOOL WATER COMMITTEE TO BOOTLE DURING THE YEAR 1913.

Description	Month.	Total Solid Matter in Solutio	Ammonia.	Ammonia from Organic Matter by distillation with Alkaline Permanganate	Nitrogen as Nitrates	Combined Chlorine	Oxygen required to oxidise		Total Hardness
							In 15 mins	In 3 hours	
Vyrnwy	Jan.	4·36	·001	·004	None	0·70	·093	·204	1·95
Rivington ..	„	8·88	·003	·004	None	1·20	·028	·062	4·16
Green Lane Well	„	34·88	None	None	0·61	3·45	None	·006	23·13
Vyrnwy	Feb.	4·20	·001	·004	none	0·75	·087	·188	1·82
Rivington ..	„	9·24	·002	·003	none	1·20	·031	·056	4·16
Green Lane Well	„	34·80	·001	none	0·56	3·45	none	·004	21·87
Vyrnwy	Mar.	3·80	·001	·005	none	0·75	·070	·159	1·69
Rivington ..	„	8·96	·001	·005	none	1·20	·030	·051	4·29
Green Lane Well	„	34·80	none	none	0·56	3·45	none	none	22·71
Vyrnwy	April	5·40	·002	·003	none	0·80	·078	·156	2·47
Rivington ..	„	11·00	·002	·005	none	1·30	·044	·059	5·29
Green Lane Well	„	34·44	none	none	0·59	3·40	·001	·003	22·71
Vyrnwy	May	3·44	·001	·004	none	0·85	·089	·175	2·21
Rivington ..	„	9·32	·001	·005	trace	1·35	·034	·040	4·03
Green Lane Well	„	35·04	·001	none	0·59	3·65	none	none	21·42
Vyrnwy	June	3·52	·001	·002	none	0·80	·105	·161	1·95
Rivington ..	„	8·92	·001	·003	none	1·30	·005	·009	3·90
Green Lane Well	„	34·44	none	none	0·63	3·60	none	none	21·42
Vyrnwy	July	3·40	·001	·002	none	0·80	·092	·156	1·82
Rivington ..	„	8·64	·001	·003	none	1·30	·005	·012	3·90
Green Lane Well	„	34·40	none	none	0·62	3·50	none	none	21·42
Vyrnwy	Aug.	3·12	·002	·003	none	0·80	·074	·142	1·69
Rivington ..	„	7·96	·002	·002	none	1·35	·003	·008	3·64
Green Lane Well	„	33·92	none	none	0·61	3·55	none	·005	21·42
Vyrnwy	Sept.	3·40	·002	·005	none	0·75	·061	·135	1·82
Rivington ..	„	8·12	·002	·003	none	1·20	·002	·005	3·77
Green Lane Well	„	34·96	·001	none	0·59	3·50	none	·003	21·42
Vyrnwy	Oct.	4·00	·004	·003	none	0·75	·077	·156	1·82
Rivington ..	„	8·28	·003	·001	none	1·25	·002	·003	3·77
Green Lane Well	„	35·40	·001	none	0·61	3·65	none	none	22·29
Vyrnwy	Nov.	3·96	·002	·006	none	0·75	·102	·193	1·82
Rivington ..	„	8·84	·003	·001	none	1·30	·006	·011	3·90
Green Lane Well	„	34·72	·001	none	0·56	3·55	·003	·006	22·29
Vyrnwy	Dec.	3·68	·001	·006	none	0·75	·086	·182	1·69
Rivington ..	„	8·84	·001	·004	trace	1·30	·005	·011	4·03
Green Lane Well	„	34·96	·001	none	0·60	3·55	none	none	22·29

The water supply is "constant" and the above analyses show it to be of excellent quality; a little "Green Lane Well" water mixed with that from the other sources is supplied to the upper parts of the Borough; most of the town is supplied with Rivington or Vyrnwy water or a mixture of these.

The following information required by the Local Government Board, has been supplied by the Borough Engineer:—

DRAINAGE AND SEWERAGE.

“ The sewerage system is entirely by gravitation discharging direct into the River Mersey. The Borough is divided into four drainage districts with four separate outfalls into the river. One of these outfalls is used solely for Bootle, and one in addition conveys the sewerage from Walton Gaol, situated within the City of Liverpool, one is used jointly with Liverpool, and the fourth drains a part of Seaforth and the greater portion of Litherland, both Urban Districts.

Speaking generally, the sewers within the Borough are, so far as is known, sufficient for the needs of the Borough.

The sewers have good falls, and with the exception of some passage sewers, are self-cleansing ; to these sewers Automatic Flushing Tanks, supplied with salt water, are fixed at all heads, for assisting the cleansing of same.

Since October 1903, all new house drains have been subjected to a water test before finally being approved.

SCAVENGING.

The following is the number of Ashbins and Ashpits in the Borough :—

	1913	1912	1911
Ashbins.	4,547	4,466	4,307
Ashpits, single.	1,516	1,548	1,580
Ashpits, double	4,354	4,373	4,420
Pail Closets	Nil.	Nil.	Nil.
Middens, single	21	21	21
Middens, double	2	2	2

The ashbins are emptied once every week ; the ashpits and middens at least once every month, but in certain districts during the summer, they are emptied three times a month. The method adopted is to empty the contents of the ashpits or ashbins into light baskets, which are wheeled along the passages, and emptied directly into covered carts. The house refuse collected during the year ending March 31st, 1914, amounted to

16,069 tons, of which 15,927 tons were destroyed at the Destructor, and 142 tons were sent along the canal to farmers outside the district and used for filling up pits. 4,720 tons of street sweepings were collected and disposed of to farmers outside the Borough and 1,200 tons to farmers and allotment owners within the Borough."

ASHPITS.

When an ashpit is in bad condition, the owner often prefers to abolish it, and provide an ashbin rather than repair it.

During the year the number of ashbins increased by 81 (including 13 in newly erected houses); single ashpits decreased by 32 and double ones by 19. Many ashpits which are in fair condition are situated within a few feet of a living room. These ashpits were substituted for privies many years ago, the Corporation in most cases paying one-half the cost. In accordance with newer views on sanitary science it is now known that ashbins are much more conducive to the health of the community than ashpits, because the latter are more liable to act as breeding-places for disease-carrying flies. A proposal has recently been made to abolish the ashpits, and provide ashbins, in a wholesale manner in certain districts where the ashpits are within a few feet of living rooms, the yards are small and the back passages narrow: the Corporation would defray approximately one-half the cost of the conversions. Power is being sought by Provisional Order to expend £1,800 on this work.

CLOSET ACCOMMODATION.

Practically every house in the town is provided with one or more water-closets.

MORTUARY.

The Public Mortuary is in the grounds of the Borough Hospital and is also used by that Institution.

OFFENSIVE TRADES.

The following offensive trades exist in the town:—

Tanneries	..	..	2
Fat Melting	..	..	1
Gut Scraping	..	..	1

No nuisance was caused during the year.:

A fat-melting business was discovered which had been established a few weeks before, without the consent of the Local Authority. As the site was quite unsuitable, it was decided not to allow the business to be continued.

The keeping of a fried-fish shop is not a statutory offensive trade in Bootle, but all the shops were visited and the businesses were carried on, with very few exceptions, in a satisfactory manner.

DISEASES OF ANIMALS ACTS.

Ships which have carried cattle to this country are inspected and the necessary cleansing supervised. Informations were laid against 4 firms for bringing live cattle into the port without a licence from the Board of Agriculture. Amount of fines and costs, £3-0-0.

Parasitic Mange Order.—During the year 12 cases of parasitic mange were reported ; 114 visits were paid to the stables in which the cases occurred.

Anthrax.—Two suspected cases in animals occurred. One case was confirmed and the necessary precautions taken.

LOCAL OR ADOPTIVE ACTS RELATING TO PUBLIC HEALTH IN FORCE IN THE BOROUGH ARE :—

Bootle Corporation Act, 1890.

Bootle Order, 1897, relating to Sanitary Improvements.

Bootle Corporation Act, 1899.

Infectious Disease (Prevention) Act, 1890, Sections 4, 5, 6, 14, 15, 16, 17, 18, 20, and 21.

Public Health Acts (Amendment) Act, 1890, Part III.

Notification of Births Act, 1907.

Section 95 of the Public Health Acts (Amendment) Act, 1907.

Steps are being taken to adopt many other sections of this Act.

INFECTIOUS DISEASES HOSPITALS.

The Linares Hospital for Infectious Diseases was built in 1886; it then consisted of an administration block, two permanent brick pavilions, and a temporary building for cases of smallpox. In 1893, during an epidemic of

typhoid fever, a temporary structure for twenty patients was erected, and the following year an additional brick building, which is now used for eases of scarlet fever. During 1900-2, a porter's lodge, discharge block and additions to the administrative block were built, and in 1903 two additional temporary wards were added to the smallpox pavilion. During 1913, a scheme was adopted for the erection of a four-roomed observation ward, for the adaptation of the newer portion of the smallpox pavilion for the reception of sixteen cases of pulmonary tuberculosis, and for the enlargement of the administrative block. These additions and alterations are now in progress. With the new additions, there will be 106 beds in the Hospital, namely, 86 for eases of Scarlet Fever, Diphtheria, Typhoid and Typhus Fever in four pavilions, three containing two wards each and the other two large and two small wards; 4 in single wards for observation eases and 16, in two large and two small wards, for phthisis.

During 1913, male cases of phthisis were admitted to the pavilion formerly used for eases of typhoid fever, which was adapted for "open-air" treatment. Arrangements were made to treat cases of typhoid fever in another portion of the hospital. Insured persons suffering from phthisis were admitted and the Insurance Committee paid 25/- weekly per patient for their treatment. The benefits of the education of the intermediate, and the isolation of the advanced cases are very great. Provision was made for graduated work under supervision in the grounds for those who were likely to benefit by it. When the alterations are completed, tuberculous persons of each sex, whether insured or not, will be admitted.

The Maghull Hospital has been adapted for the reception of some twenty early eases of phthisis and will shortly be opened for both insured and non-insured.

Arrangements have been made for Bootle cases of smallpox to be treated in a Liverpool Hospital.

Cases Treated in the Infectious Diseases Hospital, Linacre, during the year 1913.

Patients in hospital on December 31st, 1912.

	Scarlet Fever.	Diphtheria.	Enteric Fever.	Phthisis.	Totals.
Bootle	31	—	—	5	36
Litherland ..	1	—	—	—	1
Formby	1	—	—	—	1
Totals ..	33	—	—	5	38

All recovered

CASES ADMITTED DURING 1913.

	Admitted.	Died.	Case-mortality.
Scarlet Fever	116	2	1·7%
Diphtheria	27	4	14·8%
Enteric Fever	4	1	25·0%
Phthisis	39	4	10·2%
Other Diseases	26	2	7·6%
Totals	212	13	6·1%

Bootle cases numbered 180 ; Litherland, 21 ; Formby, 4 ; and Seamen's National Insurance Society, 7.

Deaths : Bootle, 11 ; Litherland, 2.

During the year, the number of cases treated was 250, of which the number to end fatally was 13. The case-mortality of those under treatment was 5 2%.

SCARLET FEVER : CASES ADMITTED.

Ages.	Bootle.		Litherland.		Formby.		Totals	Deaths
	Males	Females	Males	Females	Males	Females		
1—2 years ..	1	—	—	—	—	—	1	—
2—3 „ ..	1	8	—	—	—	—	9	1
3—4 „ ..	3	4	—	1	—	—	8	—
4—5 „ ..	4	10	1	2	1	—	18	—
5—10 „ ..	18	23	2	4	1	—	48	1
10—15 „ ..	13	5	—	1	1	—	20	—
15—20 „ ..	1	4	—	—	—	—	5	—
20—25 „ ..	1	—	—	—	—	—	1	—
25—35 „ ..	3	1	—	—	—	—	4	—
35—45 „ ..	—	1	—	—	—	1	2	—
Totals ..	45	56	3	8	3	1	116	2
	101		11		4			

Deaths—Bootle, 2.

DIPHTHERIA : CASES ADMITTED.

Ages	Bootle		erland		Formby		Totals	Deaths
	Males	Females	Males	Females	Male	Females		
1—2 years ..	2	—	1	—	—	—	3	—
2—3 „ ..	—	1	—	—	—	—	1	—
3—4 „ ..	2	—	1	2	—	—	5	1
4—5 „ ..	2	—	—	1	—	—	3	—
5—10 „ ..	2	5	4	—	—	—	11	3
10—15 „ ..	1	1	—	—	—	—	2	—
15—20 „ ..	—	1	—	—	—	—	1	—
20—25 „ ..	—	1	—	—	—	—	1	—
Totals ..	9	9	6	3	—	—	27	4
	18		9		—			

Deaths—Bootle, 3 ; Litherland, 1.

Tracheotomy : tracheotomy was performed on four patients for Laryngeal Diphtheria, two of whom recovered.:

ENTERIC FEVER : CASES ADMITTED.

Ages	Bootle		Litherland		Formby		Totals	Deaths
	Males	Females	Males	Females	Males	Females		
5—10 years ..	—	—	1	—	—	—	1	1
10—20 „ ..	1	—	—	—	—	—	1	—
20—25 „ ..	—	2	—	—	—	—	2	—
25—35 „ ..	—	—	—	—	—	—	—	—
Totals ..	1	2	1	—	—	—	4	1
	3		1		—			

Deaths—Litherland, 1.

One of the patients was a nurse of the Institution.

PHTHISIS.

All the patients were males.

Ages.			Bootle.	Seamen's National Insurance Society.	Totals.	Deaths
15—20 years ..	..	..	4	—	4	—
20—25 „ ..	..	..	3	—	3	1
25—30 „ ..	..	..	3	2	5	1
30—35 „ ..	..	..	2	2	4	—
35—40 „ ..	..	..	3	2	5	1
40—45 „ ..	..	..	8	1	9	1
45 and upwards..	..	..	9	—	9	—
Totals ..	..	..	32	7	39	4

Deaths.—Bootle, 3 ; Seamen's National Insurance Society, 1.

AGE AND SEX DISTRIBUTION OF "OTHER DISEASES."

Age	Bootle		Litherland		Formby		Totals	Deaths
	Males	Females	Males	Females	Males	Females		
Under 1 year	—	1	—	—	—	—	1	—
1—2 years ..	1	2	—	—	—	—	3	—
2—5 „ ..	5	1	—	—	—	—	6	1
5—10 „ ..	6	3	—	—	—	—	9	1
10—15 „ ..	1	—	—	—	—	—	1	—
15—20 „ ..	1	2	—	—	—	—	3	—
20—25 „ ..	—	—	—	—	—	—	—	—
25—30 „ ..	1	—	—	—	—	—	1	—
30—35 „ ..	—	—	—	—	—	—	—	—
35—40 „ ..	2	—	—	—	—	—	2	—
Totals ..	17	9	—	—	—	—	26	2
	26		—		—			

Deaths.—Bootle, 2.

Cases notified under the following headings were re-classified to the number indicated :—

Scarlet Fever, 7.

Diphtheria, 13

Enteric Fever 5.

Phthisis 1.

Non-Zymotic Mortality.—Two deaths occurred from "Other Diseases," viz., Spinal Caries, 1; Broncho-Pneumonia, 1.

Patients in Hospital on December 31st, 1914.

	Scarlet Fever	Diphtheria	Enteric Fever	Smallpox	Phthisis	Totals
Bootle ..	21	5	—	—	4	30
Litherland ..	3	—	—	—	—	3
Formby ..	2	—	—	—	—	2
Totals ..	26	5	—	—	4	35

BACTERIOLOGICAL AND PATHOLOGICAL EXAMINATIONS.

There is a laboratory at the Hospital in which almost all bacteriological work in which the inoculation of animals is not necessary, can be performed. Specimens could be examined for the Spirochaete of Syphilis if the micros-

cope were fitted for use with dark ground illumination. Certain bacteriological work which cannot well be carried out at Linaere is performed at the University of Liverpool by Professor Beattie. This includes examination of rats for plague, of milk for tubercle bacilli by inoculation of guinea-pigs, and of meat food products.

The following are particulars of the examinations carried out in the hospital laboratory during 1913 :—

Examination required						Number of specimens examined
Serum for Widal re-action	..	..	..	..	..	12
Blood Examinations	..	..	..	..	..	50
Swabs for Diphtheria	..	..	..	..	..	96
For Tubercle Bacilli :—						
(a) Sputum—Direct Method	..	..	..	..	..	222
Indirect „	..	..	..	..	..	45
(b) Milk	..	..	..	..	..	1
Milk :—						
(a) for micro-organisms other than Tubercle Bacilli	..					4
(b) for dirt	..	..	..	..	..	4
Pus for Gonococci	..	..	..	..	..	1
Hairs for Ringworm	..	..	..	..	..	18
Fæces for Typhoid Bacilli	..	..	..	..	..	1
Pleuritic Fluid	..	..	..	..	..	1
Morbid tissue for malignant disease	..	..	..	..	..	1
Total						456

Five blood serums out of twelve agglutinated Typhoid Bacilli. The blood examinations demonstrated that little reliance for either diagnosis or prognosis in Pulmonary Tuberculosis can be placed on examination of polymorpho-nuclear leucocytes by the Arneth method. Of the 96 swabs examined, 31 contained Klebs-Löffler Bacilli. Of the 222 sputa examined by the direct method, 84 contained acid fast bacilli ; 45 specimens negative

by the direct method, were examined by the indirect, in which the sputum is treated with anti-formin, and centrifugalised: in five of these, acid-fast bacilli were found in the deposit. Eleven of the 18 hairs contained the spores of Ringworm. Professor Beattie examined seven specimens of railway milk, ten meat food products, and one rat.

Sanitary Administration.

FACTORY AND WORKSHOP ACT, 1901.

The Medical Officer of Health is required to make and transmit to the Secretary of State an annual summary of the work done under this Act. The following is a copy of the official table.

Additional details will be found on pages 93 and 94

FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES AND HOMEWORK. 1. INSPECTION.

Including inspections made by Sanitary Inspectors or Inspectors of Nuisances.

Premises	Number of		
	Inspections	Written Notices	Prosecutions
FACTORIES			
(including Factory Laundries)	162	4	—
WORKSHOPS			
(including Workshop Laundries) ..	1,179	44	—
WORKPLACES			
(other than Outworkers' Premises, included in Part 3 of this Report)	421	15	—
Totals	1,762	63	—

2.—DEFECTS FOUND.

Particulars	No. of Defects			Number of Prosecutions
	Found	Remedied	Referred to H.M. Inspector	
Nuisances under the Public Health Acts :—				
Want of cleanliness	28	28	—	—
Want of ventilation	—	—	—	—
Overcrowding	—	—	—	—
Want of drainage of floors	—	—	—	—
Other nuisances	24	24	—	—
Sanitary { insufficient	1	1	—	—
Accommodation { unsuitable or	10	10	—	—
.. .. . { defective	—	—	—	—
.. .. . { not separate	—	—	—	—
.. .. . { for sexes	—	—	—	—
Offences under the Factory and Workshop Act :				
Illegal occupation of underground bake-				
houses (S. 101)	—	—	—	—
Breach of special sanitary requirements				
for bakehouses (S.S. 97 to 100) ..	—	—	—	—
Other offences :—				
(Excluding offences relating to outwork				
which are included in Part 3 of this				
Report)	—	—	—	—
Totals	63	63	—	—

3.—HOME WORK.

NATURE OF WORK—

Wearing Apparel :—

(1) Making, etc., Dungaree Overalls, men's and women's underclothing. Dressmaking, Tailoring and Boot Repairing.

(2) Cleaning and washing.

OUTWORKERS' LISTS, SECTION 107—

Lists received from Employers—

	Lists.	OUTWORKERS.	
		Contractors.	Workmen.
Twice in the year ..	20	2	38
Once in the year ..	—	—	—

Number of Addresses of Outworkers received from other Councils	22
Number of Addresses of Outworkers forwarded to other Councils	16
Notices served on Occupiers as to keeping or sending lists ..	—
Prosecutions—	
Failing to keep or permit inspection of lists	—
Failing to send lists	—
Number of Inspections of Outworkers' Premises	92
Outwork in Unwholesome Premises, Section 108—	
Instances	—
Notices served	—
Prosecutions	—
Outwork in Infected Premises, Sections 109 and 110—	
Instances	—
Orders made (S. 110)	—
Prosecutions (SS. 109 and 110)	—

4.—REGISTERED WORKSHOPS.

Workshops on the Register (S. 131) at the end of the year.	Number.
Bakehouses	38
Confectionery Bakehouses	17
Workshops and Workplaces	132
Outworkers' Premises	22
Total number of workshops on Register ..	209

5.—OTHER MATTERS.

Class.	Number
Matters notified to H.M. Inspector of Factories—	
Failure to affix Abstract of the Factory and Workshop Act (S. 133)	6
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5)	4
Notified by H.M. Inspector Reports (of action taken) sent to H.M. Inspector	4
Other	—
Underground Bakehouses (S. 101)—	
Certificates granted during the year (renewed) ..	18
In use at the end of the year	18

BAKEHOUSES.

Details of the inspection of bakehouses will be found on page 599.

The number of bakehouses now on the register is 45, and to these 959 visits were made during the past year

One notice had to be issued because of neglect to perform the necessary limewashing.

SUMMARY OF THE WORK DONE BY THE LADY INSPECTORS.

Total number of visits made to houses by the Lady Inspectors in respect of the matters detailed below	11,657
No. of visits made in reference to infants under one year of age ..	6,567
„ „ enquiries concerning deaths of infants, change of residence, etc	1,553
„ „ visits and re-visits to cases of minor infectious and other diseases notified by officers of the Education Authority	2,327
No. of references to Male Sanitary Inspectors	72
„ „ sub-let houses visited and re-visited	1,235
„ „ „ found dirty.. .. .	25
„ „ routine visits to Midwives	95
„ „ enquiries <i>re</i> Still Births	84
„ „ other enquiries in reference to the Midwives' Act	25

SUMMARY OF WORK DONE BY THE INSPECTOR OF NUISANCES AND HIS ASSISTANTS.

NUISANCES.

No. of complaints made by inhabitants	384
„ „ nuisances discovered as result of the above	524
„ „ nuisances reported	5,016
„ „ re-inspections of nuisances	9,953
„ „ water closet conversions	—
„ „ ashpits demolished	7
„ „ ashbins provided in place of ashpits	12
„ „ defective ashbins renewed	56
„ „ visits and re-visits to stables	391
„ „ informations laid.. .. .	3
„ „ convictions	1

Number withdrawn on payment of costs owing to abatement of nuisance	2
No. of Magistrates' Orders obtained	1
Amount of Fines and Costs	16s. 6d.

COMMUNICATIONS SENT OUT FROM OFFICE.

No. of notices issued to owners	1,439
„ „ notices issued to occupiers	328
„ „ notes to complainants	112
„ „ notes sent to comply with notices	106
Communications to the Borough Engineer	251
„ „ Education Authorities	1,885
„ „ Public Library	231
„ „ House Surgeon, Royal Hospital, Bootle	231
„ „ Sunday Schools	94
„ „ Day Schools	972
„ „ Milk Vendors.. .. .	155
Letters <i>re</i> Nuisances	124
Total	<u>5,928</u>

CINEMATOGRAPH SHOWS.

There are six Picturedromes in the town, they were inspected on 49 occasions.

CANAL BOATS AND CATTLE SHIPS.

No. of Canal Boats inspected in 1913.. .. .	216
„ „ Infringements— <i>re</i> painting and repairing	8
„ „ notices sent in respect of same.. .. .	8
„ „ ships inspected	6

COMMON LODGING HOUSES.

No. registered under the Public Health Act.. .. .	6
„ of day inspections, 337 ; night inspections, 84.. .. .	421
„ „ informations laid in respect of infringements.. .. .	3
„ „ convictions	3
Amount of Fine and Costs	£1 16s. 0d.

SUB-LET HOUSES.

No. of day inspections by male inspectors	739; night inspections	286; 1,025
„ „ day inspections by female inspectors	.. ..	1,235
„ „ infringements of Bye-laws relating to sub-let houses	..	68
„ „ informations laid	.. ..	1
„ „ convictions	.. ..	1
Amount of Fine and Costs	.. ..	3s. 6d.

STEPS TAKEN TO PREVENT NUISANCE FROM SMOKE.

No. of observations made	.. ..	106
„ „ intimations sent	.. ..	9
„ „ notices served in respect of excessive black smoke	..	13
„ „ informations laid	.. ..	1
Amount of Fines and Costs	.. ..	9s. 6d

DAIRIES, COWSHEDS AND MILKSHOPS.

No. of Milkshops on register	.. ..	36
„ „ Shippons with dairies attached	.. ..	32
„ „ Inspections made: shippons, 859; milkshops, 987	..	1,846

The occupiers of shippons and milkshops have from time to time been verbally cautioned with regard to the cleanliness of the premises, and the cows, and the proper storage of milk.

FACTORY AND WORKSHOP ACT.

WORKSHOPS AND WORKPLACES (EXCLUDING BAKEHOUSES).

No. on Register	.. ..	132
No. of visits and re-visits	.. ..	641
„ „ workrooms with dirty walls	.. ..	18
„ „ „ „ ceilings	.. ..	18
„ „ „ „ floors	.. ..	3
„ „ „ „ lavatories	.. ..	6
„ „ „ not properly ventilated	.. ..	—
„ „ „ found overcrowded	.. ..	—
„ „ defective drains and water closets	.. ..	7
„ „ miscellaneous defects found	.. ..	24
„ „ notices issued to occupiers	.. ..	27
„ „ „ „ „ owners	.. ..	31
„ „ „ „ „ complied with	.. ..	58
„ „ references to the Factory Inspector	.. ..	6

FACTORIES.

No. of visits and re-visits	162
„ „ with insuffieient or unsuitable sanitary accommodation ..	4
„ „ referred to Borough Engineer	4

BAKEHOUSES.

No. on Register	38
No. of visits and re-visits made	775
„ „ bakehouses found dirty (walls and ceilings)	1
„ „ notices issued for limewashing	1

CONFECTIONERY BAKEHOUSES.

No. on Register	17
No. of visits and re-visits made	184
„ found dirty (walls and ceilings)	1
„ of notices issued for limewashing	1

OUTWORKERS.

No. of Outworkers on Register	22								
„ „ visits and re-visits made to houses of outworkers	92								
„ „ notices served for sanitary defects at houses of outworkers ..	—								
Outworkers employed in Bootle for Liver- pool, Birkenhead, and Litherland Firms	<table> <tr> <td>Tailors or Tailoresses</td><td>6</td></tr> <tr> <td>Dressmakers ..</td><td>11</td></tr> <tr> <td>Boot Repairers ..</td><td>4</td></tr> <tr> <td>Laundresses ..</td><td>1</td></tr> </table>	Tailors or Tailoresses	6	Dressmakers ..	11	Boot Repairers ..	4	Laundresses ..	1
Tailors or Tailoresses	6								
Dressmakers ..	11								
Boot Repairers ..	4								
Laundresses ..	1								
Outworkers employed in Liverpool for Bootle Firms	<table> <tr> <td>Tailors or Tailoresses</td><td>8</td></tr> <tr> <td>Boot Repairers ..</td><td>2</td></tr> </table>	Tailors or Tailoresses	8	Boot Repairers ..	2				
Tailors or Tailoresses	8								
Boot Repairers ..	2								

FOOD INSPECTION.

No. of visits to foodshops	740
Amount of food seized in small quantities and destroyed during the year	590 lbs.
No. of Inspections of hawkers' earts	156
„ „ „ „ slaughter houses	134
„ „ „ „ food factories	181

SCHOOLS.

No. of schools inspected	..	..	..	..	..	..	13
--------------------------	----	----	----	----	----	----	----

POISONS AND PHARMACY ACT, 1908.

One licence was issued under this Act during 1913.

SUMMARY OF LEGAL PROCEEDINGS.

Defective drains, etc.	..	..	..	..	..	..	5
Infringements of Sale of Food and Drugs Acts	..	..	..	..	..	..	11
Smoke Nuisance	..	..	..	..	..	..	1
Common lodging houses	..	..	..	..	..	..	3
Sub-let houses	..	..	..	..	..	..	1
Contagious Diseases (Animals) Acts (See page —)	..	..	..	..	..	..	4
Unsound Food	..	..	..	..	..	..	—

DISINFECTION : INFECTIOUS DISEASES.

No. of houses disinfected after notifiable infectious diseases	..	215
„ „ houses disinfected after phthisis	.. ..	210
„ „ houses disinfected after measles	.. ..	5
„ „ schools disinfected after measles	.. ..	2
„ „ visits made to infected houses	.. ..	534
„ „ re-visits made to infected houses	.. ..	1,434
„ „ houses cleaned in default of or at request of owners	..	8
„ „ houses disinfected for causes other than fevers	.. ..	14

All houses let at a rental of 8/3 per week or less are cleaned after infectious disease (i.e., the walls stripped and the ceilings whitened) by the Corporation at their own cost.

FILTHY HOUSES.

No. of houses reported	..	..	..	..	..	..	224
„ „ intimations sent	..	..	..	..	..	..	224
„ „ houses cleansed	..	..	..	..	..	..	218

LIST OF ARTICLES DISINFECTED.

	Bootle.	Litherland.	Formby.	Totals.
Mattresses ..	374	34	26	434
Beds	399	32	9	440
Bolsters and Pillows	1,045	76	52	1,173
Blankets	288	54	54	396
Quilts	584	42	29	655
Sheets	384	39	13	436
Carpets	153	19	18	190
Wearing Apparel ..	1,354	181	77	1,612
Miscellaneous Articles	245	31	51	327
	4,826	508	329	5,663

NOTE.—These figures do not include the ambulance bedding (one bed, one pillow and three blankets) which is disinfected after the removal of each case ; 51 library books were disinfected.

The following articles were destroyed, at the request of the owners, after infectious diseases :—

Wearing apparel ..	15	Blankets	2
Mattresses	5	Quilts	—
Beds	6	Sheets	2
Bolsters and Pillows	3	Miscellaneous ..	3

FLUSHING.

The flushing gang consists of two Corporation Workmen, and one Liverpool Waterman. An extra gang was employed during the four summer months.

No. of private houses at which drains were flushed ..	13,479
„ „ passage sewers flushed	779
„ „ public buildings at which drains were flushed ..	59

The drains at the Royal Hospital, Bootle, were flushed 12 times during the year.

The amount of fresh water used during the year was 3,298,680 gallons.
The amount of salt water used was 42,240.

TABLE I.—COUNTY BOROUGH OF BOOTLE.
VITAL STATISTICS OF WHOLE DISTRICT DURING 1913 AND PREVIOUS YEARS

Year	Population estimated to middle of each Year	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS.		NETT DEATHS BELONGING TO THE DISTRICT.			
		Un-corrected Number	Nett		Number	Rate	of Non-residents registered in the District.	of Residents not registered in the District.	ONE YEAR OF AGE		AT ALL AGES	
			Number	Rate					Number	Rate per 1,000 Nett Births	r	Rate
1	2	3	4	5	6	7	8	9	10	11	12	13
1908	67,127	2,182	...	*32.5	1,078	16.0	41	188	314	143	1,225	18.2
1909	68,120	2,138	...	*31.3	989	14.5	26	185	253	118	1,148	16.8
1910	69,122	2,016	...	*29.1	872	12.6	38	185	249	123	1,019	14.7
1911	70,130	2,093	2,120	30.2	1,050	14.9	43	276	308	145	1,283	18.2
1912	71,152	2,093	2,129	29.9	947	13.3	46	282	232	108	1,183	16.6
1913	72,186	2,132	2,166	30.0	1,065	14.7	52	252	316	145	1,265	17.5

*These rates are based on the uncorrected numbers.

Area of District in acres (land and inland water),—1,947.

Total population at all ages at Census of 1911, 69,876; number of inhabited houses, 12,402; average number of persons per house, 5.63.

TABLE II.—COUNTY BOROUGH OF BOOTLE.

CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1913

NOTIFIABLE DISEASES	NUMBER OF CASES NOTIFIED.										TOTAL CASES NOTIFIED IN EACH LOCALITY (e.g. Parish or Ward) of the District						Total cases removed to Corporation Hospital
	At all ages	At ages—Years							Derby Ward	Stanley Ward	Mersey Ward	Knowsley Ward	Linaere Ward	(Orrell Ward			
		Under 1	1 and under 5 years	5 and under 15 years	15 and under 25 years	25 and under 45 years	45 and under 65 years	65 and upwards									
Small-pox ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Cholera—Plague ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Diphtheria (including Membranous Croup)	39	1	14	20	1	2	1	2	18	1	—	5	11	2	31	—	
Erysipelas ...	35	—	—	1	2	1	2	18	12	2	2	4	10	6	—	—	
Scarlet Fever ...	150	—	48	87	8	7	—	—	—	—	—	12	10	26	40	108	
Typhus Fever ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Enteric Fever ...	12	—	—	4	3	5	—	—	—	—	—	2	2	3	—	8	
Relapsing Fever ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Continued Fever ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Puerperal Fever ...	3	—	—	—	1	2	—	—	—	—	—	—	—	2	1	2	
Cerebro-spinal Meningitis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Poliomyelitis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Pulmon'y Tuberculosis	295	3	8	71	52	104	54	3	61	29	44	57	80	24	33	—	
Other forms of Tuberculosis...	80	3	13	42	15	6	1	—	17	9	16	18	16	4	—	—	
*Infantile Diarrhœa	102	66	36	—	—	—	—	—	16	7	36	30	11	2	—	—	
Totals ...	716	73	119	225	82	144	68	5	172	70	114	148	169	43	182	86	

*Voluntary notification of cases under the age of two years.
Isolation Hospital or Hospitals, Sanatoria, etc.—Corporation Hospital, Linaero Lane, Bootle; Bootle Sanatorium, Maghull.

TABLE III.—COUNTY BOROUGH OF BOOTLE.

CAUSES OF, AND AGES AT DEATH DURING THE YEAR 1913

Causes of Death	Nett Deaths at the subjoined ages of “Residents” whether occurring within or without the district.									Total Deaths whether of ‘Residents’ or ‘Non- Residents’ in Institu- tions in the District
	All ages	Under 1 year	1 and under 2 years	2 and under 5 years	5 and under 15 years	15 and under 25 years	25 and under 45 years	45 and under 65 years	65 and upwards	
All causes { Certified... .. { Uncertified	1,218 47	299 17	114 2	61 2	51 2	50 1	158 4	274 13	211 6	109 7
Enteric Fever	1	—	—	—	—	—	1	—	—	1
Small-pox	—	—	—	—	—	—	—	—	—	—
Measles	33	5	14	12	2	—	—	—	—	1
Scarlet Fever	4	—	—	2	2	—	—	—	—	2
Whooping Cough	37	15	11	9	2	—	—	—	—	—
Diphtheria and Croup	4	—	—	1	3	—	—	—	—	5
Influenza	6	1	—	—	—	—	1	4	—	—
Erysipelas	2	1	—	—	—	—	—	—	1	—
Phthisis (Pulmonary Tuber- culosis)	90	1	2	—	4	16	38	25	4	4
Tuberculous Meningitis	15	1	4	5	4	1	—	—	—	1
Other Tuberculous Diseases...	15	1	3	—	7	2	—	1	1	5
Cancer, malignant disease ...	65	—	—	—	—	1	9	36	19	5
Rheumatic Fever	5	—	—	—	1	2	1	1	—	—
Meningitis	19	9	2	2	2	2	—	2	—	2
Organic Heart Disease	82	—	—	1	5	3	18	33	22	2
Bronchitis	110	20	5	3	1	—	8	30	43	2
Pneumonia (all forms)	157	37	32	14	5	9	17	30	13	7
Other diseases of respiratory organs	15	3	2	3	—	—	1	4	2	3
Diarrhoea and Enteritis	106	74	25	2	1	—	1	3	—	4
Appendicitis and Typhlitis ...	1	—	—	—	1	—	—	—	—	2
Cirrhosis of Liver	9	—	—	—	—	—	2	6	1	—
Alcoholism	2	—	—	—	—	—	1	1	—	1
Nephritis and Bright’s Disease	33	1	—	—	1	1	10	14	6	7
Puerperal Fever	2	—	—	—	—	—	2	—	—	—
Other accidents and diseases of Pregnancy and Parturition	5	—	—	—	—	—	4	1	—	2
Congenital Debility and Mal- formation, including Premat- ure Birth	100	92	6	1	—	1	—	—	—	5
Violent Deaths, excluding Suicide	41	2	2	4	4	5	10	10	4	32
Suicide	2	—	—	—	—	—	1	1	—	1
Other Defined Diseases ..	268	43	7	3	7	8	32	71	97	19
Diseases ill-defined or unknown	36	10	1	1	1	—	5	14	4	3
Totals	1,265	316	116	63	53	51	162	287	217	116

SUB-ENTRIES INCLUDED IN ABOVE FIGURES.

Cerebro-spinal Meningitis ...	—	—	—	—	—	—	—	—
Poliomyelitis	—	—	—	—	—	—	—	—
Broncho-pneumonia	58	25	21	6	—	2	1	2
Veneral disease	4	3	1	—	—	—	—	—
Cerebral Hæmorrhage ...	52	—	—	—	1	—	5	17
Arterio-Sclerosis	30	—	—	—	—	—	1	8
Senile Decay	22	—	—	—	—	—	—	22
Tetanus	1	—	—	—	—	—	—	1

TABLE IV.—COUNTY BOROUGH OF BOOTLE.

INFANT MORTALITY

1913 Nett Deaths from stated causes at various Ages under Year of Age

CAUSE OF DEATH.		Under 1 week	1—2 weeks	2—3 weeks	3—4 weeks	Total under 4 weeks	4 weeks and under 3 months	3 months and under 6 months	6 months and under 9 months	9 months and under 12 months	Total Deaths under One Year
All Causes	Certified	45	12	13	8	78	33	62	94	32	299
	Uncertified	6	2	0	2	10	2	3	2	0	17
Small-pox ...	...	...	...	...	...	...	...	...	...	...	—
Chicken-pox ...	...	...	...	...	...	...	...	...	...	...	—
Measles ...	...	...	...	...	...	...	...	...	2	3	5
Scarlet fever ...	...	...	...	...	...	...	...	3	3	...	15
Whooping Cough ...	...	...	...	...	1	1	...	...	...	...	...
Diphtheria and Croup ...	...	...	...	...	...	1	...	...	1	...	1
Erysipelas ...	...	...	...	...	...	...	...	...	...	...	1
Tuberculous Meningitis ...	...	...	...	...	...	...	1	...	...	...	1
Abdominal Tuberculosis ...	...	...	...	...	...	...	...	...	...	...	1
Other Tuberculous Diseases ...	...	...	...	...	...	...	...	...	...	1	1
Meningitis (<i>not Tuberculous</i>) ...	...	...	...	...	...	...	1	2	4	2	9
Convulsions ...	...	3	...	1	2	6	4	7	6	3	26
Laryngitis ...	...	...	...	...	...	...	1	...	...	...	1
Bronchitis ...	...	...	2	1	1	4	9	4	3	...	20
Pneumonia (all forms) ...	...	...	...	...	...	...	3	11	13	10	37
Diarrhoea ...	...	...	...	...	...	...	8	5	6	9	28
Enteritis ...	...	...	...	...	...	...	4	22	8	12	46
Gastritis ...	...	...	1	...	1	2	...	1	...	...	3
Syphilis ...	...	...	...	1	1	1	2	...	...	...	3
Rickets ...	...	...	...	...	...	...	...	1	...	1	2
Suffocation, overlying ...	...	...	...	...	...	...	...	...	1	...	1
Injury at birth ...	...	3	...	...	...	3	...	...	...	...	3
Atelectasis ...	...	1	...	...	...	1	...	...	...	...	1
Congenital Malformations... ..	...	3	2	...	1	6	...	...	2	...	8
Premature birth ...	...	35	7	5	...	47	6	1	1	...	55
Atrophy, Debility and Marasmus ...	...	1	2	4	...	7	8	7	3	4	29
Other Causes ...	...	5	1	1	2	9	3	1	3	4	20
Totals ...	...	51	14	13	10	88	55	65	56	52	316
Nett Births in the year		...2,101		Nett Deaths in the year of		legitimate infants ...291		illegitimate infants ...25			

TABLE V.—COUNTY BOROUGH OF BOOTLE.

VITAL STATISTICS OF SEPARATE LOCALITIES IN 1913 AND PREVIOUS YEARS.

NAMES OF LOCALITIES	THE WHOLE BOROUGH				DERBY WARD				STANLEY WARD				MERSEY WARD				KNOWSLEY WARD				LINACRE WARD				ORRELL WARD			
	Population esti- mated to middle of each year	Births registered	Deaths at all ages	Deaths under 1 year	Population esti- mated to middle of each year	Births registered	Deaths at all ages	Deaths under 1 year	Population esti- mated to middle of each year	Births registered	Deaths at all ages	Deaths under 1 year	Population esti- mated to middle of each year	Births registered	Deaths at all ages	Deaths under 1 year	Population esti- mated to middle of each year	Births registered	Deaths at all ages	Deaths under 1 year	Population esti- mated to middle of each year	Births registered	Deaths at all ages	Deaths under 1 year	Population esti- mated to middle of each year	Births registered	Deaths at all ages	Deaths under 1 year
1906 ...	65,174	2,171	1,209	312	12,311	428	215	52	11,253	293	146	35	12,642	406	279	72	12,339	397	269	62	13,809	498	250	76	2,820	149	50	15
1907 ...	66,145	2,168	1,128	268	12,756	439	191	44	11,277	249	144	23	12,520	377	260	62	12,333	430	238	57	14,214	528	240	61	3,045	145	55	21
1908 ...	67,127	2,182	1,225	314	13,210	469	189	51	11,298	278	152	31	12,397	415	304	83	12,327	381	260	61	14,623	497	266	66	3,271	142	54	22
1909 ...	68,120	2,138	1,148	253	13,664	415	228	51	11,324	257	142	28	12,273	394	295	73	12,321	372	205	48	15,037	541	231	46	3,501	159	47	7
1910 ...	69,122	2,016	1,019	249	14,124	441	196	57	11,348	224	123	18	12,149	350	237	65	12,314	365	200	39	15,455	498	223	53	3,732	138	40	17
1911 ...	70,130	2,093	1,283	308	14,590	436	219	49	11,370	247	196	39	12,021	391	278	61	12,307	356	275	76	15,876	525	266	68	3,966	138	49	15
1912 ...	71,152	2,093	1,183	232	15,060	430	214	47	11,394	224	153	24	11,893	386	301	68	12,301	397	251	50	16,302	504	228	33	4,202	152	36	10
Average { Nos.... Rates	68,138	2,123	1,170	276	13,674	437	207	50	11,323	253	151	29	12,271	389	279	69	12,320	385	243	56	15,045	513	243	58	3,505	146	47	15
	...	31.1	17.1	130	...	31.8	15.1	114	...	22.3	13.2	110	...	31.6	22.7	177	...	31.2	19.6	145	...	34.0	16.1	111	...	41.6	13.4	102
1913 { Nos.... Rates	72,186	2,146	1,265	316	15,535	449	209	49	11,418	258	159	33	11,766	365	272	73	12,295	395	280	75	16,732	501	285	64	4,440	178	60	22
	...	29.7	17.5	145	...	28.9	13.4	109	...	22.5	13.9	127	...	31.0	23.1	200	...	32.1	22.7	189	...	29.9	17.0	127	...	40.0	13.5	123

* These totals do not include 27 births in 1911, 36 in 1912, and 20 in 1913; the wards in which the mothers resided are not known.

TABLE VI.—COUNTY BOROUGH OF BOOTLE
OCCUPATIONS OF MALES AND FEMALES.
AGED 10 YEARS AND UPWARDS AT CENSUS OF 1911.

AGES				AGES							
10-14	15-19	20 or more years	Total Males	Occupations at ages 10 years and upwards	Total Females	Un-married	Married	Widowed	10-14	15-19	20 or more years
3,573	3,242	19,143	25,958	Total occupied and unoccupied	27,226	12,340	12,422	2,464	3,622	3,405	20,199
3,133	276	604	4,013	Retired or unoccupied	19,948	6,503	11,687	1,758	3,466	1,359	15,123
440	2,966	18,539	21,945	Engaged in occupations	7,278	5,837	735	706	156	2,046	5,076
26	30	337	393	General or Local Government of Country	52	41	5	6	—	18	34
—	10	30	40	Defence of Country	—	—	—	—	—	—	—
2	43	363	408	Professional occupations and their subordinate services	592	504	54	34	—	45	547
2	25	152	179	Domestic Offices or Services.....	2,244	1,770	163	311	63	630	1,551
16	344	1,423	1,783	Commercial occupations	307	297	6	4	—	108	199
259	1,134	8,256	9,649	Conveyance of men, goods and messages	81	60	3	18	3	21	57
3	14	90	107	Agriculture	5	3	1	1	—	1	4
—	—	3	3	Fishing	—	—	—	—	—	—	—
1	6	83	90	In and about working, & dealing in the products of mines and quarries	7	—	3	4	—	—	7
21	445	2,248	2,714	Metals, machines and conveyances	30	24	3	3	1	15	14
1	10	56	67	Precious metals, jewels, watches, etc.	13	11	—	2	—	1	12
16	144	1,218	1,378	Building and works of construction	—	—	—	—	—	—	—
13	116	702	831	Wood, Furniture, Fittings, etc.	125	103	16	6	1	43	81
—	8	26	34	Brick, Cement, Pottery, etc.	13	11	1	1	—	3	10
6	65	299	370	Chemicals, Oil, Grease, Soap, etc.	530	514	9	7	24	227	279
2	39	210	251	Skins, Leather, Hair and Feathers	49	46	2	1	5	20	24
1	18	108	127	Paper, Prints and Stationery	132	107	16	9	1	41	90
1	35	161	197	Textile Fabrics	785	661	65	59	13	277	495
18	55	267	340	Dress	1,004	837	97	70	28	287	689
26	259	1,175	1,460	Food, Tobacco, Drink and Lodging.....	1,113	743	237	133	15	277	821
—	22	279	301	Gas, Water and Electricity Supply.....	—	—	—	—	—	—	—
26	144	1,053	1,223	Other General and Undefined Workers and Dealers.....	196	105	54	37	2	32	162
3,133	276	604	4,013	Without specified occupations or unoccupied	19,948	6,503	11,687	1,758	3,466	1,359	15,123
3,573	3,242	19,143	25,958		27,226	12,340	12,422	2,464	3,622	3,405	20,199



